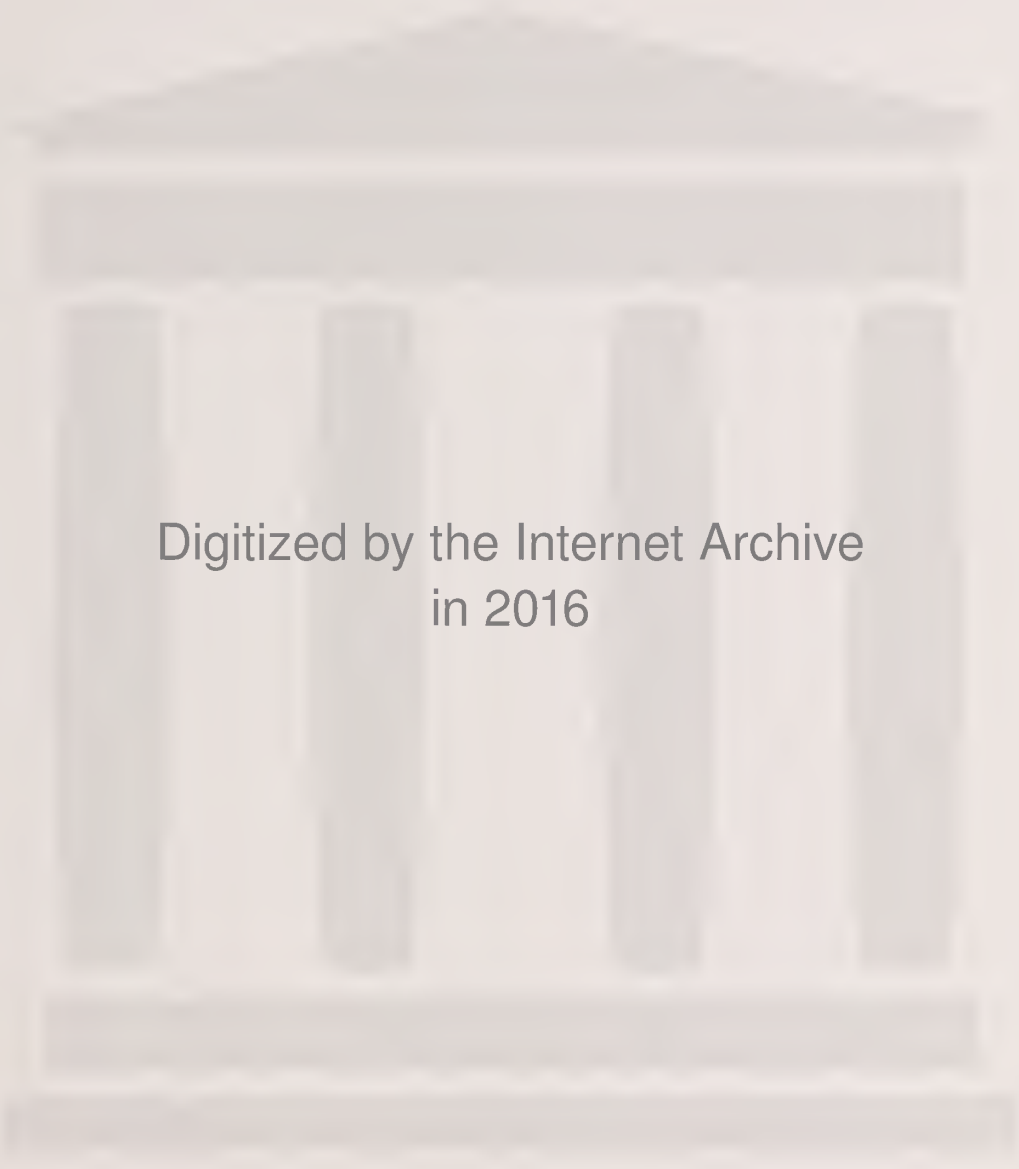
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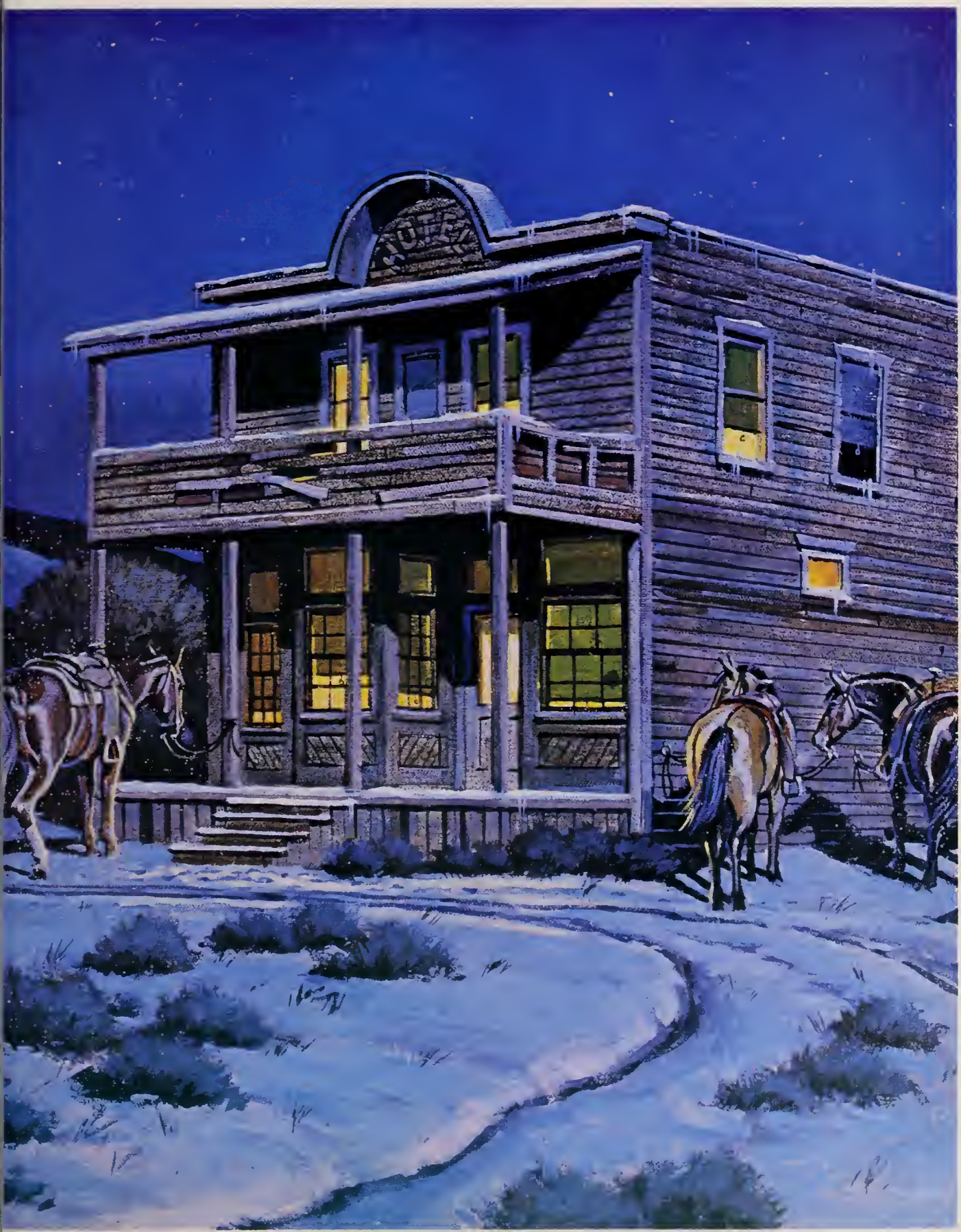
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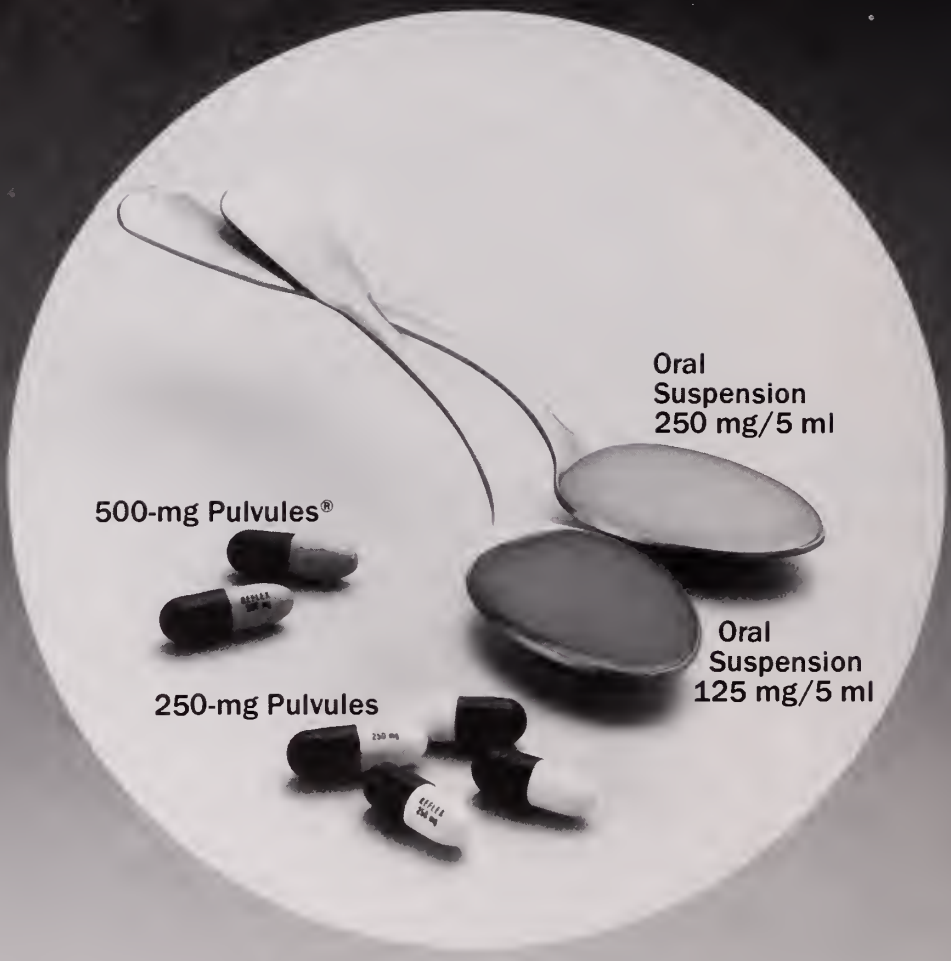
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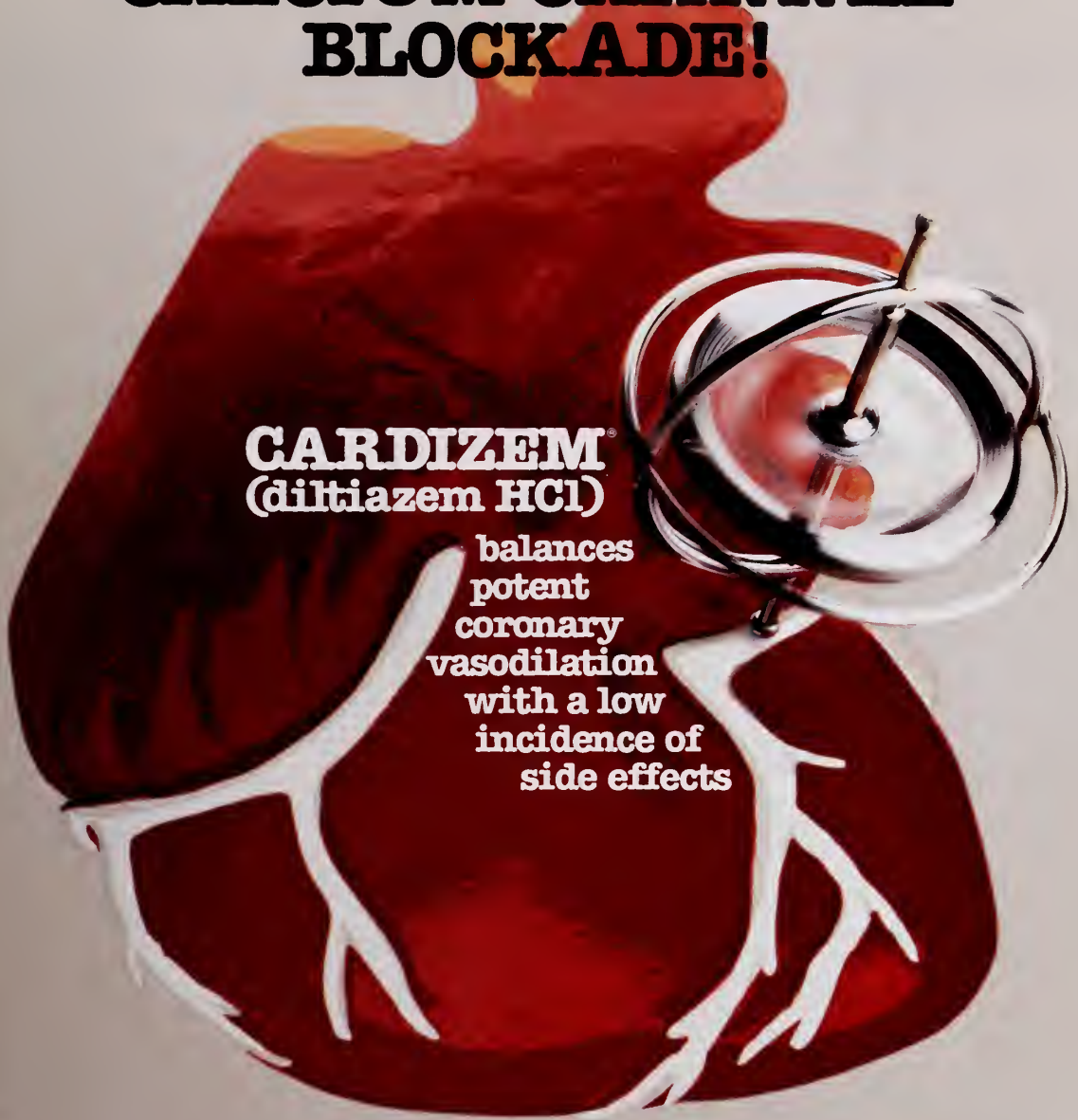
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CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

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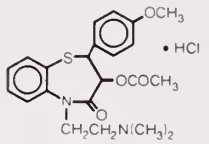
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cardizem®
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30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy) -5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways.

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect, cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (
asthenia (1.2%), AV block (1.1%). In addition, the following
were reported infrequently (less than 1%) with the order of pre
tion corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bra
dia, palpitations, congestive heart f
syncope.
Nervous System:	Paresthesia, nervousness, somnol
tremor, insomnia, hallucinations, and an
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vo
mild elevations of alkaline phosphatase,
SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosens
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episod
vasospastic angina developed periods of transient asympto
asystole approximately five hours after receiving a single
dose of CARDIZEM.

The following postmarketing events have been reported
quently in patients receiving CARDIZEM: erythema multiform
kopenia; and extreme elevations of alkaline phosphatase,
SGPT, LDH, and CPK. However, a definitive cause and effect be
these events and CARDIZEM therapy is yet to be established

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been li
Single oral doses of 300 mg of CARDIZEM have been well tole
by healthy volunteers. In the event of overdosage or exagge
response, appropriate supportive measures should be employ
addition to gastric lavage. The following measures may be consi

Bradycardia	Administer atropine (0.60 to 1.0 mg). If
is no response to vagal blockade, admi
isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed
degree AV block should be treated with
diac pacing.
Cardiac Failure	Administer inotropic agents (isoprote
dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarte
bitartrate).

Actual treatment and dosage should depend on the severity
clinical situation and the judgment and experience of the tre
physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 m
and from 560 to 810 mg/kg, respectively. The intravenous LD_{5}
these species were 60 and 38 mg/kg, respectively. The oral LD_{5}
dogs is considered to be in excess of 50 mg/kg, while lethality
seen in monkeys at 360 mg/kg. The toxic dose in man is not kn
but blood levels in excess of 800 ng/ml have not been assoc
with toxicity.

DOSAGE AND ADMINISTRATION

**Exertional Angina Pectoris Due to Atherosclerotic Co
nary Artery Disease or Angina Pectoris at Rest Due to C
nary Artery Spasm.** Dosage must be adjusted to each pati
needs. Starting with 30 mg four times daily, before meals an
bedtime, dosage should be increased gradually (given in div
doses three or four times daily) at one- to two-day intervals
optimum response is obtained. Although individual patients
respond to any dosage level, the average optimum dosage ra
appears to be 180 to 240 mg/day. There are no available data conc
ing dosage requirements in patients with impaired renal or he
function. If the drug must be used in such patients, titration shou
carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort a
anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be sa
coadministered with short- and long-acting nitrates, but t
have been no controlled studies to evaluate the antiang
effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

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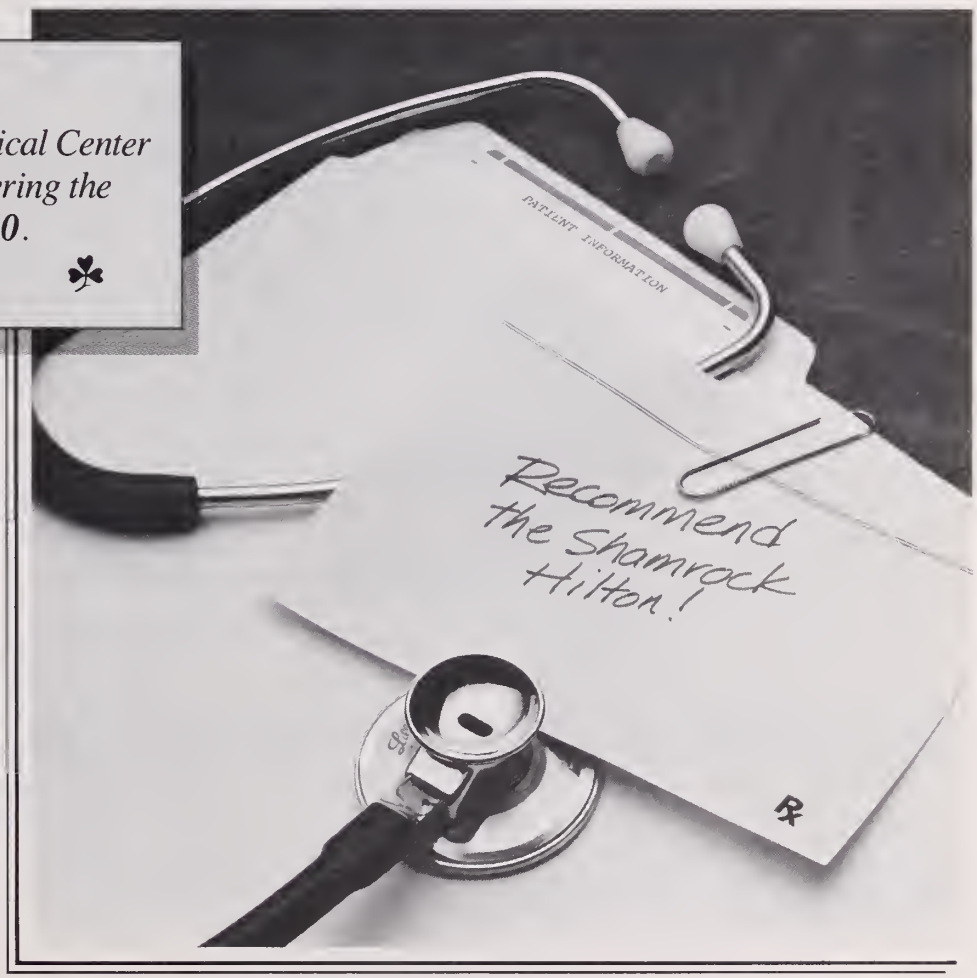
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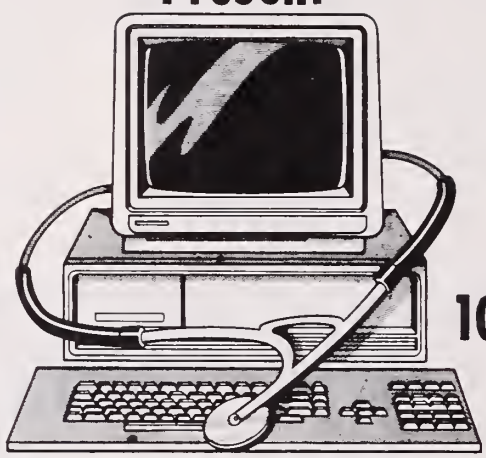
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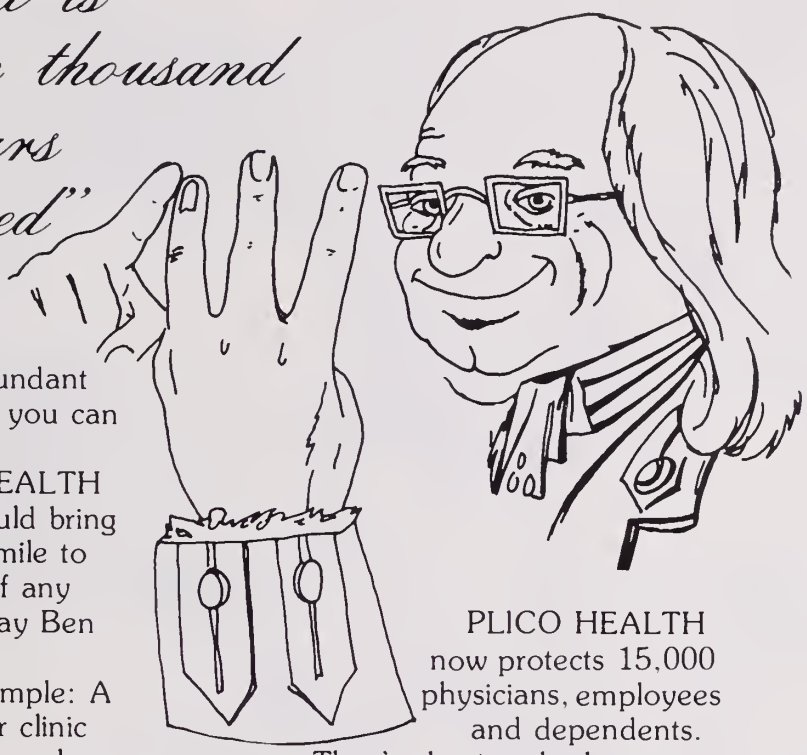
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No Matter

Shortly after Christmas I read an article in the newspaper which suggested that our image hasn't improved in the past year, and that media mouths haven't left us for dead. The assassination continues.

It seems that a media spokesman for the American Association of Retired Persons (AARP) announced that the group supported the (additional) Medicare freezes currently under consideration in Washington. Expressing confidence that members of the medical profession would not refuse (to accept assignments from Medicare beneficiaries), he explained that "they still want to make the payments on their second Mercedes."

Although the executive director of the AARP "made clear" that such was not the official position of the seventeen-million-member organization, it was not reported that he or his group eschewed the spokesman's vitriolic sarcasm.

All this should eliminate any doubt — in case you entertained some — about the position the AARP can be expected to assume regarding health care and issues involving "members of the medical profession." And if you have been mystified by the haste in which recent decisions concerning Medicare were made by the Washington lawmakers, imagine yourself as one of them, listening to the demagogues who claim to speak for seventeen million voters. Surely no aura of mystery can survive such hypothetical circumstance. Your position would be dictated; your support would be enthusiastic; your opinion would be mandated — or your political career would be terminated.

No matter that your actions would close the doors of a thousand hospitals, drive competent physicians out of small communities and rural areas, discourage young people from entering the medical professions, and encourage and promote the prosperity of charlatans, health hucksters, assembly-line clinics, and computerized quacks.

No matter either that the majority of the seventeen-million-member lobby lived long enough to achieve eligibility for membership in their organization precisely because of the success of the physicians and hospitals and pharmaceutical industry they are in the process of butchering.

No matter that they are not required to demonstrate financial need before demanding financial assistance from those persons and institutions providing their care.

No matter that their demands will increase the cost and decrease the effectiveness of the health care available to their children and grandchildren and heirs yet to be born.

No matter that those seventeen million Medicare-eligible citizens support a union dedicated to the enslavement of the medical profession and the expansion of the federal financial deficit. They are voters, after all, and politicians have to give the voters what they want.

No matter.

—MRJ

Anatomy of a Successful Resolution



One of the most democratic organizations in America today is the American Medical Association. Those who have worked in and/or who understand the structuring of OSMA have little difficulty understanding AMA structure.

This is a story of one of the resolutions adopted last month by the AMA House of Delegates, the legislative body that meets semiannually, June and December.

Resolution #2 from the Oklahoma Delegation was initiated by Dr Norman L. Dunitz, Tulsa, who, as an interested observer/participant with the Delegation at the Annual Meeting of AMA in June of '84, watched a Kansas resolution being discussed at several O-K (Oklahoma-Kansas) caucuses. After reference committee testimony uncovered some resistance, primarily to a $1.2 million fiscal note for "embarking on a campaign . . . information about concerns of doctors (re mandatory assignment of Medicare fees, PPS, PPO, et al) . . . perhaps of paid essays or ads . . . (to) achieve maximum feasible public exposure . . . include topics deemed . . . worthy of public presentation," a strategy was planned in the O-K caucus to debate the resolution at length on the floor of the House, aided by a modicum of help from other states. However, only a watered-down substitute resolution (31/A-84) exhorting "continued collection and analysis of information" be done with "joint efforts within the federation" to disseminate same "to the (AMA) membership and the public" was subsequently adopted by the House.

Norm Dunitz came home more than a little concerned that medicine's story needed to "go public" . . . that the people we serve — who seem to be less enchanted, collectively, with us at each passing survey — could be valuable allies in helping to prevent further destruction of the world's finest system of medical care. So he composed (probably with the help of Jack Spears, TCMS executive of long experience) the first version of what would become Resolution #2, finally, at the Interim '84 Meeting.

In turn, the resolution was approved unanimously (I understand) by Tulsa County's Board of Directors and (I know) unanimously when presented to OSMA's Board of Trustees at its August meeting. Titled "AMA National Media Campaign Designed to Enhance the Image of the Practicing Physician," four "Resolves" called for: (1) OSMA to introduce, at I-'84 of AMA, a resolution "for AMA to mount a continuing public relations campaign designed to enhance the personal image of the practicing physician and of the profession generally"; (2) a "carefully structured campaign shall primarily utilize the most effective and direct communication media"; (3) that AMA "employ a distinguished firm of knowledgeable public relations consultants . . . to assist in developing and implementing this project"; and (4) AMA "fund this program at a level consistent with the cost of achieving its objectives."

Anticipating some objections from various components of the AMA, especially when the fiscal note of $4.6 million a year was applied (probably a realistic estimate), the OSMA Delegation to the AMA began an unprecedented preconvention campaign to enlist allies, followed up at Interim '84 itself by presentation to various larger caucuses and more important state delegations where interest had been expressed. Disinterest and frank opposition were encountered, as expected, but the greater-than-anticipated support in Reference Committee F testimony was the strongest indication that we, indeed, had a winner . . . a champion for all!

The dreaded floor fight never materialized . . . nothing more than a few unwise, meaningless amendments offered, which were promptly and vociferously voted down! With some negotiated changes of wording, Dr Dunitz's resolution was adopted.

* * * *

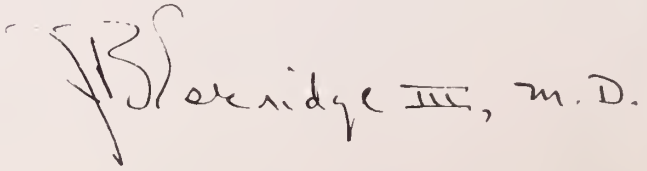
So much for the story — *all that has passed.* We, individual MDs of whatever color, sex, or field of endeavor in medicine, must adopt our own resolutions — however many it takes — to honestly practice what this upcoming campaign will preach. Integrity of the *profession* can be recouped, by the good WORDS of the public education campaign complimented by the good DEEDS of physicians. The former, without the latter, would be as clanging brass, crashing symbols.

If your front-office or telephone PR needs improvement . . . *do it!!*

If some of your fees are inordinately high . . . *reduce them!*

If you give little time to patients you treat . . . give them more *quality time*!

Television, the medium likely to be used the most, will reach into the smallest and most remote parts of this state. See yourselves as others see you; change your own image . . . for the better.



scientific OSMA JOURNAL

Self-Monitoring of Blood Glucose

D. P. Wilson, MD; G. Rosenkoetter, RN, MSN;
R. K. Endres, MD

Urine glucose monitoring is now obsolete. The ability of individuals to accurately determine their blood glucose levels through self-monitoring techniques represents a significant advance in the management of diabetes mellitus.

For many years patients with diabetes have relied on urine glucose testing to monitor their state of control. With the advent of reliable test methods for self-monitoring of blood glucose (SMBG), urine testing has become obsolete. Although, in general, urine sugars correlate with blood sugars, the marked variability of individual readings makes them much less desirable than actual glucose determinations.[1] Problems with compliance, variable renal thresholds, adverse effects of medications, and the "passed through" phenomenon all contribute to making this a cumbersome method of indirectly assessing blood sugar. Additionally, urine sugars have never been useful in evaluating hypoglycemia because the urine sugar reading is generally "negative" when levels of blood sugar are below the renal threshold.

Indications for SMBG

Self-monitoring of blood glucose is desirable for all diabetics requiring insulin. The American Diabetes Association has suggested that SMBG is particularly useful for diabetics who are prone to severe nervous system responses from hypoglycemia and may not experience the usual warning symptoms, diabetic women who are pregnant, diabetic patients who have an unusually high or low renal threshold for glucose, and patients who suffer from unusual insulin-resistant states.[2] In addition, most physicians feel that patients on portable insulin infusion devices are obligated to self-monitoring of blood glucose.

From the H Allen Chapman Institute of Medical Genetics and the Southwestern Metabolism and Diabetes Center, Tulsa, Oklahoma.

Available Methods

Tables 1 through 3 present information about currently available methods for SMBG. When SMBG is accurately performed, comparable results can generally be obtained either by visual interpretation or with a metering device.

Common Errors

Many difficulties with SMBG can be avoided if appropriate instructions are given and utilized. We have found that errors are often the result of inadequate samples of blood, incomplete removal of blood from test strips, reading strips in poor lighting, dirty optical ports on meters, and incorrect calibration. It should be remembered that serum or plasma glucose is inherently 10% to 15% higher than methods employing whole blood. This is particularly important when comparing the results of test strips with values obtained in the clinical laboratory.

Data Collection

There are as many, if not more, schedules for conducting SMBG as there are available methods. Initially we suggested that our patients obtain a daily fasting blood sugar coupled with multiple single determinations "randomized" throughout the week. It was assumed that after a week of testing, a typical 24-hour profile of blood sugar could be constructed. However, we found this approach to be of limited value, hampered by the many determinants of blood sugar that vary from day to day. The child undergoing final examinations at school may have vastly different

Table 1.—Visual Test Strips for Blood Glucose Monitoring

Product (Manufacturer)	Cost* Quantity	Cost* Price	Range†	Increments†									
Chemstrip bG (BioDynamics)	25 50	$17.69 $30.00	20-800	—	20	40	80	120	—	180	240	400	800
Dextrostix (Ames)	10 25 100	$ 8.00 $14.00 $48.95	0-250	0	25	45	90	130	—	175	250+	—	—
Visidex II (Ames)	25 100	$14.00 $47.50	20-800	—	20	40	70	110	140	180	250	400	800

Based on: *average retail price, †mg/dl

blood sugars at 11:30 AM on Monday as compared to a similar time on Wednesday, two days after examinations are completed.

Ideally, we would like to measure blood sugar on a continuous basis. While continuous intravenous monitoring of blood sugar has some inherent limitations, recent novel approaches appear promising. Blood sugar can be approximated by monitoring the optical rotation of laser-beam light within a contact lens.[3] Shichiri et al have developed a subcutaneous sensor with which they were able to accurately measure blood sugar on a continuous basis for seven days in pancreatectomized dogs.[4] Soon such technology will not only permit continuous recordings of blood sugar but, coupled with a mechanical insulin infusion device, may be used as an "artificial pancreas."

Suggested Guidelines

Realizing the day-to-day variations in blood sugar, we currently have patients obtaining blood sugar readings four times within the same 24-hour period — once before each meal and again at bedtime. This routine is repeated three times each week, the days

Table 2.—Visual Test Strips for Blood Glucose Monitoring

Product (Manufacturer)	Use of Meter	Stability*	Expiration†	Comments
Chemstrip bG (BioDynamics)	Not necessary; may be used with Accu-chek, Glucochek II	Good; 7 days for values <320 mg%, and 4 days for values >320 mg%	6 mos	No washing required. Cap difficult to remove with hand weakness. Two color pads (green and blue).
Dextrostix (Ames)	Recommended; may be used with Glucochek II, Beta Scan, or Glucokey.	Poor; color pad continues to darken after 1 min.	4 mos	Washing required. Screw cap. One color pad (green-blue). Enlarged color chart available for visually impaired. Color differentiation poor.
Visidex II (Ames)	Visually read only; cannot be used with meter.	Good; 4 days for values <110 mg%, and up to 7 days for values >110 mg%	6 mos	No washing required. Screw cap. Two color pads (green and orange). Enlarged color chart available for visually impaired.

*Following color development.
†After new vial is opened for use.

randomized and preselected by the patient. Patients are taught what variables might affect their control — diet, exercise, insulin, emotional stress, illness, etc — and are encouraged to consider such factors any time their blood sugar levels are outside of predetermined "target ranges." Most patients strive for a fasting value of 70-110 mg/dl and a preprandial value of less than 130 mg/dl. Such a regimen, allowing for four days without testing, has been widely accepted by our pediatric population.

The limitations of such an approach, however, should be readily apparent and well understood by the patient and physician. Such a routine offers only a limited index of control throughout a 24-hour period. Also, it does not evaluate potential excessive postprandial excursions of blood sugar. Therefore, we use the glucose profile along with the history, physical findings, and glycosylated hemoglobin values in evaluating control. After elimination of the so-called "labile fraction," measurements of glycosylated hemoglobin have been shown to be an excellent "barometer" of control over the preceding two to three months.[5] As a result, one should expect the values from SMBG and glycosylated hemoglobin to be directly correlated. In situations where there is gross discrepancy, one should consider that SMBG values have been fabricated or that perhaps a significant excursion of blood sugar occurs on "off days" or postprandially. Such discrepancy would call for an intensification of SMBG, perhaps with supervision, not only to assure compliance, but to evaluate potential errors in the testing method. Patients using metering devices should recalibrate their machines with fresh reagents and test strips. Control solutions with known concentrations should be tested to assure proper functioning.

Recognizable Patterns

Figures 1 through 3 show patterns of elevated blood sugar levels that patients and parents are taught to recognize. Similar analogies can be used with hypoglycemia.

Figure 1 shows a sporadic increase in blood sugar, in this case likely caused by dietary indiscretion.

Table 3.—Meters for Blood Glucose Monitoring

Product (Manufacturer)	Cost	Display Range*	Test Strip	Power Source	Calibration Method	Weight†	Automatic Turn Off
Accu Chek bG (Bio-Dynamics)	$150.00	40-400	Chemstrip bG	Batteries	Calibration strip included with each vial of 50 test strips. Each test strip calibrated prior to use.	12 oz	Yes
Glucometer (Ames)	$150.00	0-399	Dextrostix or Glucoscan	Batteries	High/low chips or high/low solutions	12 oz	No
Glucoscan II (Lifescan)	$159.00	0-820	Glucoscan	Batteries	Factory calibrated. Each test strip calibrated prior to use.	6 oz	Yes
Glucochek II (Larken Industries)	$250.00	10-400	Dextrostix or Chemstrip bG	Batteries	Factory calibrated. Each test strip calibrated prior to use.	9 oz	Yes
Beta Scan A (Orange Medical Instruments)	$250.00	0-396	Dextrostix	Rechargeable battery pack	Factory calibrated. Each test strip calibrated prior to use.	10 oz	No‡

*mg/dl, †including batteries, ‡alarms if left on.

Date	AM	Noon	PM	HS	Comments
07/01/83	95	105	85	90	——
07/03/83	100	120	**365**	110	Birthday party
07/05/83	85	95	110	92	——

Fig 1. — Sporadic elevations.

Date	AM	Noon	PM	HS	Comments
07/01/83	95	105	85	90	——
07/03/83	**215**	**345**	**400**	**375**	Fever, vomiting
07/05/83	250	110	95	90	

Fig 2. — Persistent elevations.

Date	AM	Noon	PM	HS	Comments
07/01/83	95	**205**	85	90	——
07/03/83	100	**235**	90	120	——
07/05/83	82	**190**	108	95	——

Fig 3. — Repetitive elevations.

Patients are taught that occasionally such elevations will occur without definable causes. Unless they are repetitive (occurring each day at a similar time) or persistently elevated (each successive reading is elevated), generally no action or alterations in treatment are required. If additional insulin is given, it should be considered a supplemental dose and not incorporated into the usual insulin regimen. Such actions might cause further fluctuations in blood sugar readings, eventually resulting in chronic excessive insulin administration.

Persistent elevation of blood sugar levels frequently results from illness (Fig 2). In addition to frequent checks of blood sugars, intake and output should be monitored and urines tested for acetone. This situation usually requires additional supplemental doses of insulin to avoid ketoacidosis. A similar but more prolonged pattern can occur during the menstrual periods in women and with either sex during periods of emotional stress.

Figure 3 illustrates a repetitive elevation of blood sugar, that is, an elevation that occurs at a similar

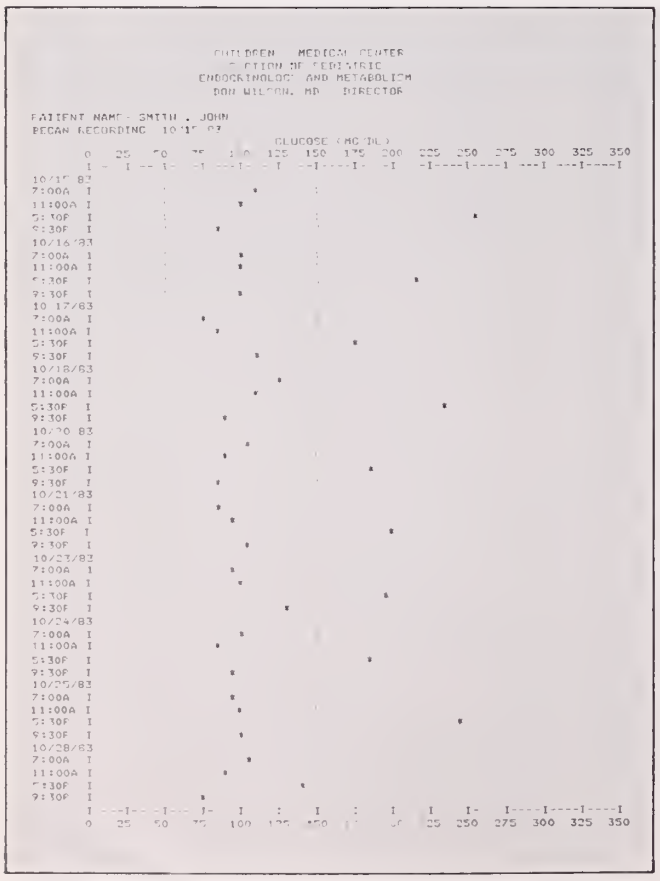


Fig 4. "Scattergram" of SMBG obtained four times a day for ten days.

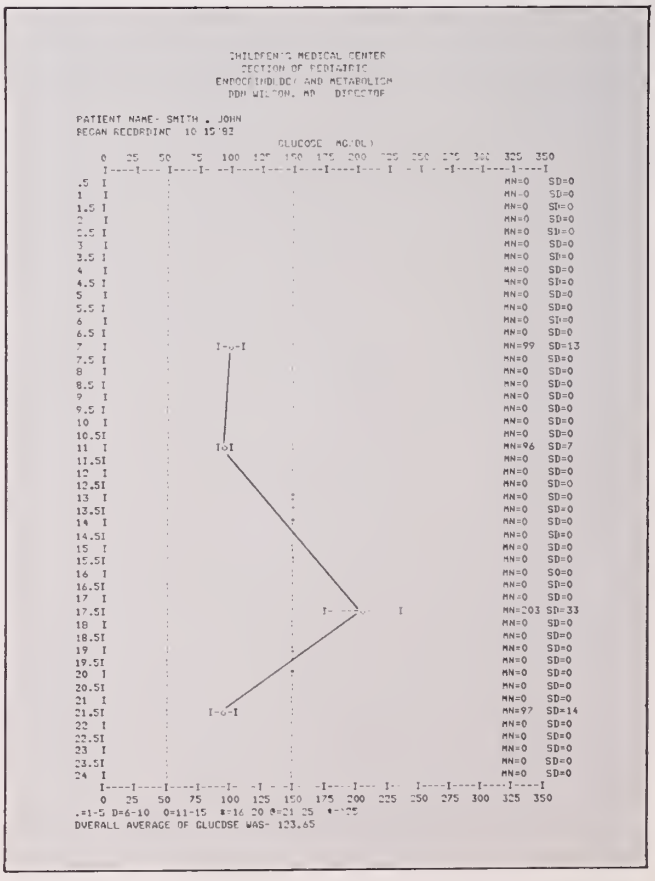


Fig 5. Mean and standard deviation of SMBG "Scattergram" (Fig 4).

time each day. Factors that cause this situation may or may not be known. However, because of their repetitive nature, unless other alterations seem to be more appropriate, this situation will require additional insulin. If this patient were taking a mixed/split insulin regimen (eg, combination of NPH and regular insulin twice daily), the elevation in blood sugar at noon could result from an inadequate amount of regular insulin. Therefore, an increase in the morning dose of regular insulin might be implemented. Since this is a repetitive pattern, this alteration in insulin dose would be incorporated into the daily regimen thereafter.

Future Methods

New methods of evaluating SMBG are continuously being sought. Data can be transformed by a microcomputer into a 24-hour "glucose profile" (Figs 4 and 5). Such methods allow for the rapid assessment of mean glucose values. With the ever-increasing availability of home computers, patients can be taught to record this information in their own homes. Such data can be transmitted to the physician's office for interpretation, evaluation, and storage. This may be particularly useful for patients who live in remote areas, frequently long distances from medical supervision. Metering devices containing memory chips are currently being developed.[6] When testing for blood glucose, each test result is stored in memory along with such variables as the ambient temperature, date, time, calories consumed, insulin dosage, etc. This information can be transmitted by telephone directly into the computer without time-consuming data entry.

Summary

Self-monitoring of blood glucose provides highly reliable state-of-the-art management for insulin-dependent diabetics. Many methods are currently available, each requiring careful instruction, use, and interpretation. Newer means of assessing blood glucose are becoming available. It is hoped that such technology will significantly improve control of the diabetic and help forestall or eliminate the chronic vascular complications that result from diabetes.

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A clinical professor of pediatrics at the University of Oklahoma Tulsa Medical College, Robert K. Endres, MD, is board certified in pediatrics-diabetes. He was graduated from the University of Oklahoma School of Medicine in 1948 and is a member of the American Academy of Pediatrics and the American Diabetes Association.

OSMA JOURNAL scientific

Intraoperative Ultrasound

Robert A. Streight, MD; Jay A. Harolds, MD

Intraoperative ultrasound can be used for many purposes, including localizing tumors or cysts, guiding placement of ventricular shunt catheters, and identifying renal calculi.

The use of real-time ultrasound in the operating room is new to Oklahoma. In this paper, we shall present our experiences with selected cases of intraoperative ultrasound, and give many of the indications for performing this type of study.

Case 1. (Fig 1) The patient was a 33-year-old man with a history of multiple hospital admissions for pancreatitis and gastritis secondary to chronic alcoholism. Initial CT scan of the abdomen showed two pseudocysts of the pancreas, a larger one in the tail and a smaller one in the region of the pancreatic head. Surgical drainage of the larger pseudocyst was done at that time.

Five months later, the patient was hospitalized with vomiting and abdominal pain. Laboratory values showed an elevated serum amylase. A repeat CT scan again showed the pseudocyst in the region of the head of the pancreas. At surgery, localization and aspiration of the pseudocyst was easily performed with the aid of real-time ultrasound. An internal drainage procedure was done and the postoperative course was unremarkable. In this case, ultrasound was very helpful to the surgeon because the overlying pancreas was hardened from previous inflammatory disease, and the location of the pseudocyst was not obvious on inspection or palpation.

Case 2. (Fig 2) The next case was a 59-year-old man with a slowly enlarging, left frontoparietal lesion seen on progressive CT scans for a period of approximately two years. Operative biopsy of the lesion was attempted. A bone flap was raised and the surface of the brain appeared normal. An ultrasound examination was requested by the neurosurgeon to help localize the mass. Ultrasound showed the mass to be near the posterior aspect of the flap, and successful needle aspiration showed the lesion to be a grade-1 astrocytoma. Again in this case, ultrasound was valuable in localizing the mass and in obtaining a histologic diagnosis with a minimum amount of trauma.

Case 3. (Fig 3) A 50-year-old woman presented in September 1983 with a five-day history of progressive disorientation, headache, and memory disturbance. CT scan of her head at that time showed a multilocular cystic enhancing



Fig. 1. Left, closed arrow points to pseudocyst in region of head of pancreas, as seen on preoperative CT examination. Right, intraoperative ultrasound clearly shows pseudocyst (C-pseudocyst, IVC-inferior vena cava, A-aorta).

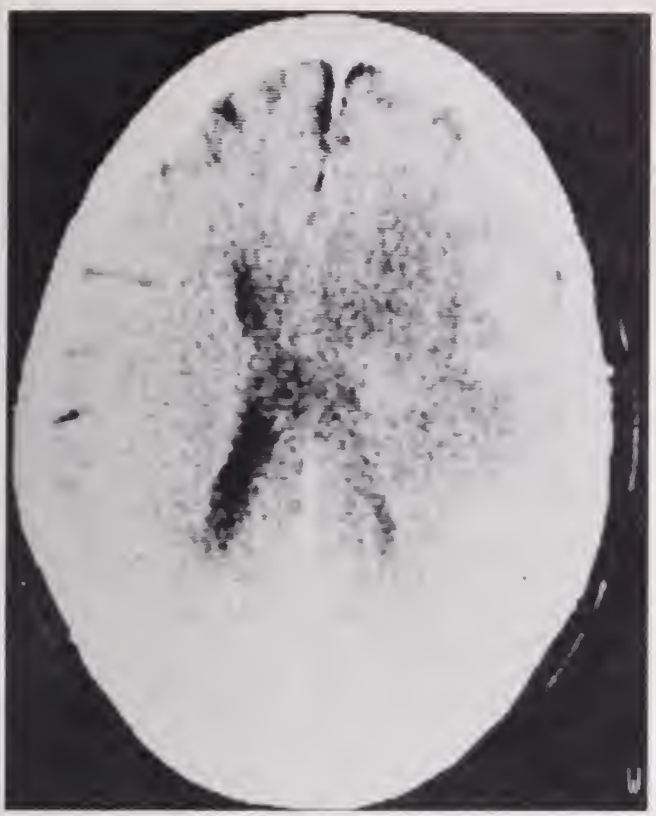




Fig 2. Left, obliteration of left lateral ventricle and effacement of sulci are seen secondary to ill-defined lesion which proved to be low-grade astrocytoma. Above, lesion was biopsied intraoperatively using ultrasound. Closed arrow points to biopsy needle inside lesion, with portion of margin of lesion outlined by open arrows.

lesion of the left temporoparietal region, consistent with a cystic astrocytoma. Real-time ultrasound easily localized the lesion at surgery, and decompression of the cyst was performed. Tissue biopsy showed the lesion to be a grade 3-grade 4 cystic astrocytoma.

Case 4. (Fig 4) The patient was a 70-year-old woman with a history of intermittent left-sided facial weakness and malaise. CT scan of her head showed a well defined, enhancing lesion of the right frontoparietal region. At surgery, ultrasound helped localize the mass, and biopsy revealed a grade 3 astrocytoma. The tumor was then removed. This case again illustrates the value of ultrasound in obtaining a tissue diagnosis to help guide the surgical approach.

Method of Examination

In these procedures, the transducer is usually covered with a sterile glove, and the cord of the transducer is covered with a sterile sleeve and sterile drapes. The transducer may also be wiped with Betadine first in case the glove is accidentally pierced during the procedure. The covered transducer may then be placed in the wound, either directly over the area of interest or in a water bath. In pediatrics, the transducer can also be utilized externally on the fontanelles.

Discussion

There are now many indications for using ultrasound in the operating room. Listed below are some of the applications and a short discussion of each.

I. Pancreatic Tumors and Cases of Severe Pancreatitis. (Refer to Case 1) It has been found that in 62% to 67% of these cases, operative ultrasound examinations may be helpful in determining the location and extent of tumors or pseudocysts.[1] It is also useful to identify the ducts and evaluate their size. The pattern of common bile duct involvement may be helpful in determining malignancy.[2] The extent of pancreatic resections can be evaluated. Certain critical structures can be identified and avoided. Also, assessment can be made as to whether stomach or bowel is actually adherent to a pseudocyst prior to possible decompression procedures. Occasionally, unsuspected stones will also be discovered during this examination.

II. Neurosurgical Procedures. (Refer to Cases 2, 3, and 4) In one series, intraoperative ultrasound was helpful in 80% of the cases in which it was utilized.[3]

A. In the evaluation of tumors in the brain, intraoperative ultrasound is especially helpful in localizing a subcortical tumor less than 2 cm in diameter.[4] Recently designed ultrasound transducers can fit through burr holes. However, in a fifth case, a small superficial lesion could not be visualized through a small, peripherally placed burr hole because the transducer size did not permit enough angulation. A larger burr hole or a burr hole more nearly over the lesion would have been helpful. The development of narrower transducers may also help alleviate the problem. If the location of a lesion is obvious upon inspection after removing the bone flap, ultrasound can still be helpful in identifying cysts within lesions and also in evaluating, near the conclusion of an operation, whether an entire tumor has been removed. In some cases, it is also possible to follow up



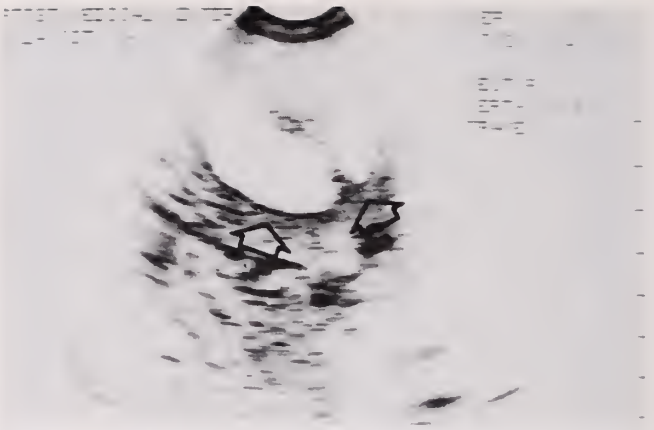


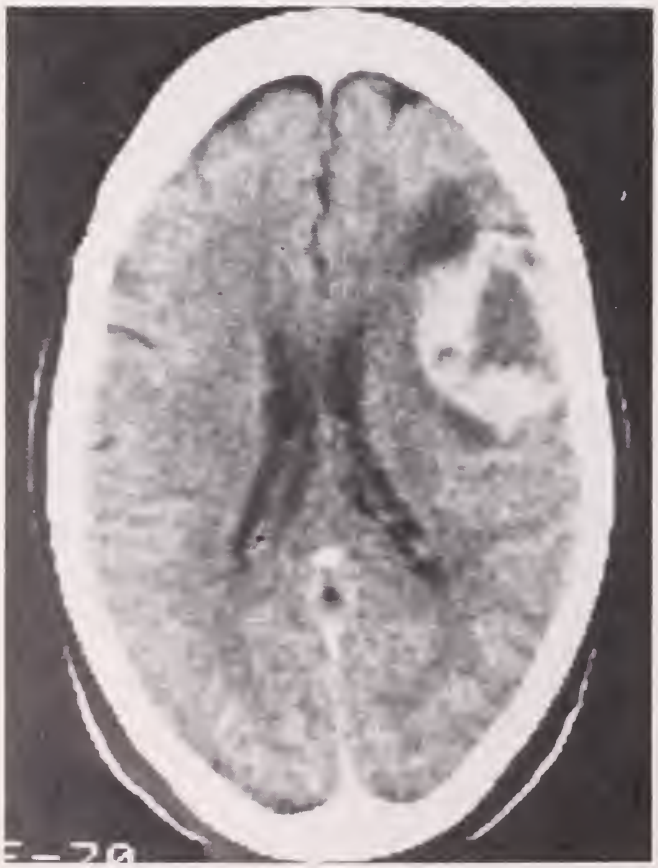
Fig 3. Left, closed arrow points to cystic astrocytoma of left cerebral hemisphere. Above, open arrows outline cystic portions of mass easily identified with intraoperative ultrasound.

the status of tumors by examining them through the burr hole site postoperatively to assess response to therapy.[5]

B. Shunt placement can be accurately evaluated.

C. In spinal surgery after a laminectomy, the extent of spinal tumors can often, although not always, be identified. Cystic and solid tumor components can be localized.[6] Foreign bodies, such as bone fragments, can be visualized by ultrasound. This is especially important in the ventral aspect of the cord, which may be difficult for the surgeon to evaluate. Intraoperative ultrasound also appears to be helpful in localizing and characterizing posttraumatic spinal cord cysts to facilitate decompression procedures.[7]

III. Morbid Obesity Patients. In patients weighing over 350 pounds, the oral cholecystogram and ultrasound of gallbladder are substantially less accurate than in thinner patients.[8] During operative procedures to correct morbid obesity, if there is a ques-



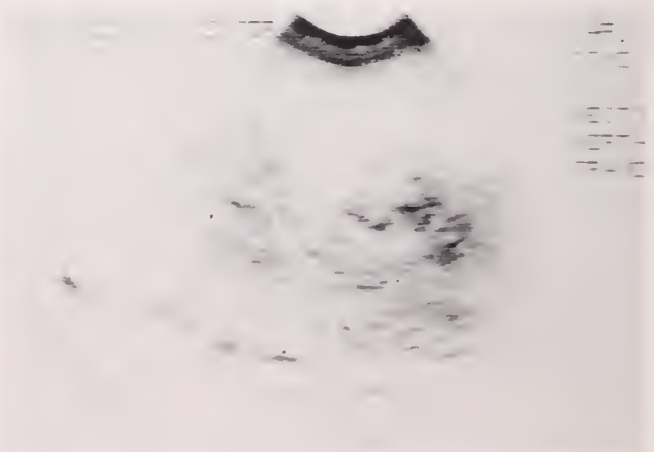


Fig 4. Left, postinjection CT scan shows well-defined enhancing lesion of right cerebral hemisphere. Right, intraoperative ultrasound helped localize lesion, seen as an area of increased echogenicity near center of image.

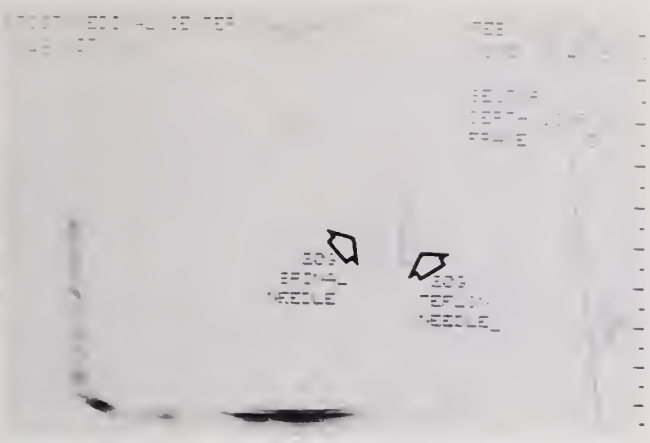


Fig 5. The increased echogenicity of Teflon-coated needle (right) compared to conventional spinal needle (left).

tion as to whether to remove the gallbladder, an operative ultrasound examination may be done to assess the status of the gallbladder.

IV. GU surgery. Operative ultrasound has been used to identify calculi and to evaluate if any calculi are left after initial surgical attempts to remove them. Most large series reporting experience for retained stones after surgery for removal of staghorn calculi show an incidence of retained stones of 10%.[9] However, operative ultrasound can reliably detect stones as small as 2 mm in diameter. Operative ultrasound has also been of some value in determining size and extent of renal tumors.

V. Parathyroid tumors. These may be difficult to identify in surgery. Intraoperative ultrasound is helpful in some cases to localize the tumor.

VI. Biliary tract. Operative ultrasound can be used for detection of common bile duct calculi, and the accuracy appears to be about the same as that of operative cholangiography.[10]

VII. Vascular surgery. Ultrasound has been used to evaluate vascular reconstruction procedures and is highly sensitive for detecting thrombi, strictures, and internal flaps.[10] This may be helpful in reducing the incidence of re-exploration of the vessels. In addition, the direction of blood flow can be detected with Doppler.

One of the problems encountered with intraoperative ultrasound has been the difficulty in visualizing the entire needle during needle biopsies. However, it has been our experience that a special Teflon-coated needle is more easily seen than other needles and can be extremely useful (Fig 5).

Conclusion

In summary, intraoperative ultrasound is clearly beneficial in many cases. One of the main advantages it provides is precise localization of known lesions, which often reduces the extent of surgical exploration required. Real-time ultrasound provides dynamic, three-dimensional images without the use of ionizing radiation or contrast agents. In our opinion, the use of intraoperative ultrasound will become more routine in the near future.

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OSMA JOURNAL *scientific*

To Shave or Not to Shave Intravenous Sites

WALLY K. WINTER, RN, MT (ASCP)*; D. J. FLOURNOY, PHD†

In this study it was found that despite normal precautions, shaving apparently increased the incidence of inflammation at IV sites.

A study was undertaken to determine the incidence of inflammation at shaved and unshaved intravenous (IV) sites on patients' arms. The incidence of inflammation was observed in two groups: (1) 30 patients in a critical care unit with all IVs started by one of us (WW), and (2) 70 patients throughout the hospital with IVs started by other nurses. The overall incidence of inflammation was 21% in shaved and 13% in unshaved patients. Patients in critical care exhibited inflammation much more often (30% of patients) than those throughout the hospital (10%) when groups of shaved plus unshaved patients were compared. Since the incidence of inflammation was greater in patients with shaved sites, we suggest that arms not be shaved unless it is difficult to see the vein for cannula insertion.

Introduction

Intravenous (IV) fluid administration was performed as early as 1832 when a Scottish physician infused 16 quarts of saline into cholera patients dying due to hypovolemia.[1] The infusion of fluid directly into the bloodstream is a very common and important method of administration used in the care of patients. It allows for rapid and effective therapy with fluids and medications. However, this direct route can be the most dangerous. Once a substance is infused, it cannot be recalled. In addition, IV administration bypasses an essential part of host resistance, the physical barrier between the outside and inside of the human body. These factors thus multiply the seriousness of IV infusion.

Infection can occur at the IV site and subsequently spread to the bloodstream. The IV route of administration is now associated with serious complications including fever, infiltration, phlebitis, and septicemia. Since the discovery that impurities in IV fluids caused febrile reactions, a variety of factors such as needle type, infusion material, and length of infusion have been associated with IV-administration–induced complications.

One controversial procedure, which may lead to inflammation at the IV site, is shaving the area prior to IV cannula insertion. Alexander et al have recently reported that preoperative shaving of hair resulted in significantly more infections than noted after clipping.[2] With this in mind, we decided to determine the incidence of inflammation at shaved and unshaved IV sites (arms) of hospitalized individuals.

Materials and Methods

Definitions. The following definitions were used for this study. *Intravenous therapy* is the introduction of a cannula into an arm vein for the administration of fluid therapy. *Inflammation* is a red, swollen, or warm area surrounding the intravenous site.

Patients. Thirty patients, fifteen shaved and fifteen nonshaved, were observed for the initial phase of this study. They were all admitted for critical care observation to a 17-bed critical care unit. Patients

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were chosen by convenience, rather than true randomization, because of triage and emergency situations. However, the arm of every other patient was shaved regardless of the amount of hair present, age, race, or sex. Patients with known septicemia were omitted from the study. No patient was included more than once in the investigation.

An additional 70 patients, throughout the hospital, were observed for inflammation at IV sites. The IVs of these patients were not started by one of us, and most of the sites were nonshaved.

Study format. Intravenous therapy is a routine procedure in the intensive and progressive intensive care unit at the Valley View Hospital in Ada, Okla, where the study was done. Routinely, IV therapy is started by a registered nurse, and the cannula site is checked for inflammation every eight hours. A commercially-prepared IV kit (Quickkit by VICRA) was used in the study. It included an alcohol prep, povidone-iodine swab, antimicrobial ointment, adhesive bandages, tape, a label, and the needle catheter. Most IV administrations were of 5% dextrose solution using a 20 gauge cannula, although these factors were not specifically noted for the study.

During a three-month period, February through April of 1982, a research registered nurse-medical technologist (WW) studied and collected data in reference to shaved and nonshaved arms at the IV site. Using the above-mentioned kit, a rigid procedure, with instructions for starting IV therapy, was followed. For the main part of this study, including the first 30 patients, only the nurse/medical technologist carried out this procedure, assessed the cannula sites for inflammation, and set up the cultures.

IV Procedure.

1. A swab was moistened by crushing a liquid-filled glass ampule in the Culturette (Cepti Seal). The moistened swab was then rubbed over a two-square-inch area of the arm chosen for IV and inoculated onto 5% sheep blood agar (first culture).
2. This same area was then cleansed with an alcohol (70% isopropyl) prep and allowed to dry for one minute.
3. IV site was shaved, if appropriate.
4. The area was cultured again as in step 1 (second culture).
5. The entire area was swabbed with povidone iodine.
6. The plastic cannula was inserted.
7. Antimicrobial ointment (povidone iodine) was applied over the entrance area and covered with an adhesive bandage.
8. The hub of the plastic cannula was secured with tape.
9. At 24 hours, the area of cannula insertion was checked for inflammation and recultured as in step 1 (third culture).
10. If the IV site was inflamed, the cannula was removed and the cannula tip cultured by using sterile scissors to clip the tip into a tube of thioglycollate broth.

IV sites were cultured three times in order to relate bacterial growth to inflammation.

A follow-up study included the observation, by WW, of 70 patients throughout the hospital, for inflammation of the IV site. These IVs were started by other nurses, however.

Table 1.—Inflammation in shaved and nonshaved patients

Group	Procedure	Number studied	Number inflamed	(%)*
ICU	Shaved	15	5	(33)
Hospital	Shaved	23	3	(13)
ICU + Hospital	Shaved	38	8	(21)
ICU	Nonshaved	15	4	(27)
Hospital	Nonshaved	47	4	(9)
ICU + Hospital	Nonshaved	62	8	(13)
Total	Shaved + Nonshaved	100	16	(16)

*% of each group with inflammation

Microbiology. All plate and broth cultures were incubated for 24 hours at 37° C before identification and enumeration of organisms occurred. Isolates were identified by conventional procedures in the microbiology laboratory.

Patients. IVs would have been used in the treatment of the patients in this study regardless of whether the study was done. The patients' rights and dignity were protected at all times during the study, as set forth by hospital policy.

Results

Table 1 shows a comparison of inflammation in shaved and nonshaved patients. Of 100 patients studied, 16 had inflamed IV sites at 24 hours. Of the 70 patients throughout the hospital, 7 had inflamed sites and only two (one shaved, one nonshaved) of the cannula tips from these patients grew bacteria on culture. One grew coagulase-negative staphylococci (CONS) and the other *Streptococcus viridans.*

Cultures from the 30 critical care unit (CCU) patients were evaluated (Tables 2 and 3). Two of nine cannulas from patients with inflammation harbored CONS. One was from a shaved, the other a nonshaved patient. In both patients, we had cultured CONS from the site previously, one on the third and the other on the first and third cultures taken (as described in Materials and Methods, IV Procedure).

Organisms were common at the IV site (Table 2) at the beginning of the procedure (first culture). Most were eliminated by cleansing with 70% alcohol (second culture). However, six sites had viable organisms after 24 hours, even in the presence of povidone iodine (third culture). These third cultures revealed CONS in 3 of 9 patients with inflammation. Coagulase-negative staphylococci were also cultured twice and diphtheroids once from 3 of 21 patients without inflammation. In addition, CONS were recovered from cannulae from 2 of 9 ICU patients with inflammation.

Coagulase-negative staphylococci were the commonest isolates at IV sites, followed by *Streptococcus viridans* and diphtheroids (Table 3).

Table 2.—Isolation of bacteria on periodic culturing

Procedure	No. patients studied	Number with growth on each culture*		
		First	Second	Third
Shaved	15	11	2	2
Nonshaved	15	10	3	4
Total	30	21	5	6

*refer to Materials and Methods, IV Procedure

Table 3.—Isolates from periodic culturing

Procedure	Organism	Number of patients with isolates on culture*			
		First	Second	Third	Cannula
Shaved	CONS	9	2	2	1
	Strep	6	0	0	0
	Diph	1	0	0	0
Nonshaved	CONS	8	3	3	1
	Strep	3	1	0	0
	Diph.	4	0	1	0

*refer to Materials and Methods, IV Procedure CONS (coagulase-negative staphylococci) Strep (*Streptococcus viridans*), Diph (diphtheroids, *Corynebaeterium* sp)

Discussion

Many intravenous infections have been related to cannulae. Aisenstein commented that the IV site is a route for infectious organisms and that the catheter acts as a conduit that can introduce pathogenic organisms directly into the bloodstream.[3]

A review of the literature mentions very little as to the consequences of shaving the arm when starting IV therapy. However, one article notes a 5.6% infection rate in shaved patients versus a 0.6% rate in patients on whom a depilatory agent was used.[4] It also states that one of the problems with shaving is microabrasions that allow the entrance of bacteria, increasing the incidence of inflammation. Barber clippers were suggested as an alternative to shaving.

Other studies note that one advantage of shaving is facilitating placement of cannulae and removal of tape, but there is no scientific evidence that shaving the arm is necessary.[5,6] The possibility of introducing bacteria into the tissue via the microabrasions caused by shaving was also noted and, once again, the use of dipilatory agents for hair removal was suggested.

Our results parallel others[2] in showing that the incidence of inflammation in shaved patients is higher than in nonshaved patients. Also, CONS were the commonest isolates at the IV sites of all patients (Table 2) and of those with inflammation. These facts suggest that CONS, which are normal skin flora, may be encouraged to grow at IV sites following shaving. These and other resident skin flora are not easily

destroyed by antiseptics, as evidenced by their recovery from an area in which iodine was present for 24 hours. It would appear that their association with inflammation could be related to infection at the IV site, which could also lead to bacteremia. However, this was not a part of our study.

Conclusion

We suggest that arms not be shaved at the IV sites unless it is necessary (eg, difficult to see a vein for cannula insertion). If shaved, about 21% of the patients will probably develop inflammation within 24 hours, compared with 13% in those who aren't shaved. Barber shears, which don't abrade the skin, could be used alternatively to rid the area of most of the hair. However, they should be disinfected between uses to prevent contamination. Another alternative is the use of depilatory agents, which are much less abrasive than shaving.[7-15] Since the number of patients studied here was small, we encourage follow-up studies from other institutions.

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Coming in February . . .

Papers scheduled for publication in the February issue of THE JOURNAL include reports on Turner's syndrome, continence-preserving operations in the management of ulcerative colitis, vitamin K, and a study of nutrition information among Oklahoma's family practitioners.

OSMA JOURNAL *scientific*

Nursing Home Glaucoma and Visual Acuity Screening Results in Garfield County

Steven W. Newell, MD, FACS; Julie J. Walser

Nursing home patients in Garfield County were screened for glaucoma and significant visual acuity loss. These findings were compared to those obtained from a Garfield County Community Health Fair screening.

Two hundred twelve Garfield County nursing home patients underwent vision and glaucoma screening. Of this number, 6.18% (6/97) had intraocular pressure (Schiotz tonometry) ≥ 24 mmHg; 33% (70/212) had corrected near visual acuity ≤ 20/200 in one or both eyes; and 44% (93/212) had best distance visual acuity ≤ 20/200 in one or both eyes. Improvement of distance visual acuity of two or more lines of vision by use of pinhole viewing (indicating a possible need for glasses lens change) was helpful in only 13% (12/93) of patients with visual acuity ≤ 20/200. The incidence of significant vision impairment and borderline-elevated glaucoma testing in this nursing home population is significantly higher than for a comparable general community vision and glaucoma screening of a more mobile and youthful population (Table 7).[1] Because potentially severe visual loss caused by cataracts, glaucoma, some forms of macular degeneration and diabetic retinopathy may be reduced by timely medical or surgical treatment, this study suggests that many nursing home patients who might benefit from ophthalmologic care are currently not receiving it. Consideration, therefore, should be given to similar future screenings of other nursing home populations.

Presented at the annual Oklahoma Society of Ophthalmology meeting in Oklahoma City, Oklahoma, April 14, 1984

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Introduction

Visual acuity and glaucoma screenings are conducted as part of many community health fair screenings. The population attending the health fairs is relatively mobile and youthful when compared to that of nursing homes. This study of nursing home population for visual acuity and glaucoma screening was designed to answer the following questions:

(1) Does this type of screening in a nursing home detect a significantly higher incidence of abnormal findings when compared to general population screening in the community?

(2) What percent of nursing home population have significantly abnormal and possibly unrecognized eye screening findings?

(3) What is the length of time since the last eye examination (ophthalmologist or optometrist) of nursing home patients?

(4) Of those patients with significant reduction of distance visual acuity, what percentage are likely to be helped by a change of their glasses?

Materials and Methods

Two hundred twelve consenting residents of six participating nursing homes in Enid, Oklahoma, underwent visual and glaucoma screening by ophthalmic technicians. Information concerning any history of significant eye disease including cataracts or

Table 1.—Corrected Near Vision Acuity

Garfield County Nursing Home	Number of Patients Screened	Number of Patients With With Near VA ≤ J10
A	40	8
B	33	13
C	35	20
D	17	10
E	34	11
F	53	8
	Total 212	Total 70
	Percent 33	

Table 2.—Distance Visual Acuity

Garfield County Nursing Home	Number of Patients Screened	Number of Patients With With Distance VA ≤ 20/200
A	40	33
B	33	11
C	35	11
D	17	12
E	34	18
F	53	8
	Total 212	Total 93
	Percent 44	

glaucoma, history of diabetes mellitus, interval since last eye examination by an optometrist or ophthalmologist, and patient's age was recorded.

Corrected near (reading) visual acuity was measured for each eye utilizing the Lebensohn near vision test and held at the optimum distance as selected by the patient.

Distance visual acuity for each eye was measured both with and without correction (glasses). Wall charts were placed 20 feet from the patient and normal room lighting was used.

A pinhole was placed before each eye to attempt to improve the distance visual acuity and the best vision through the pinhole was recorded.

With the patient seated, glaucoma screening utilizing the Schiotz tonometer was performed following instillation of Ophthaine drops.

Results of the screening were made available to the patients and/or their families. Follow-up evaluation, to be performed by their own or their family's ophthalmologist or optometrist, was recommended.

Table 3.—Distance Visual Acuity Improvement with Pinhole

Garfield County Nursing Home	Number of Patients with Distance VA 20/200	Pinhole Improved VA Two Lines
A	33	1
B	11	0
C	11	1
D	12	4
E	18	6
F	8	1
	Total 93	Total 12
	Percent 13	

Results

Seventy of 212 patients (33%) had best corrected near vision of one or both eyes ≤ 20/200 (Table 1).

Ninety-three of 212 patients (44%) had best (corrected or uncorrected) distance visual acuity of one or both eyes ≤ 20/200 (Table 2). Only 12 of these 93 patients (13%) had a two or greater line improvement in visual acuity with the use of a pinhole (Table 3).

Fourteen of 212 patients (6%) had had a recent (within two years) eye examination by an optometrist or an ophthalmologist. It was uncertain when the most recent examination of the remainder of the patients was performed (Table 4).

One of 212 patients (0.4%) had a definite history of glaucoma (Table 5), yet 6 of 97 patients tested (6.18%) had Schiotz tonometer readings (glaucoma screening) ≥ 24 mmHg (Table 6).

Discussion

Comparison of these nursing home screening findings with those of a community-wide health fair screening performed in Garfield County, Oklahoma, is helpful (Table 7).[1] The American Red Cross community-wide screening utilized the Titmus machine for distance and near visual acuity testing. Seven (5 at distance and 2 at near) of 417 patients (1.67%) screened had vision ≤ 20/200 in one or both eyes.[1] This was significantly less than the 44% with similar distance visual acuity in the nursing home population. The average age of the nursing home patient was 79.1 years and that of the Red Cross community screening patient was 50 years.

Community-wide health fair screening for glaucoma, utilizing the AO noncontact tonometer, identified 7 of 273 patients (2.56%) screened with intraocular pressures ≥ 24 mmHg. This is consistent with the current concept that glaucoma occurs in approximately 2% or more of patients over the age of 60 years. This was significantly less than the 6.18% with similar measurements in the nursing home population (Table 6). Kolker and Hetherington noted that intraocular pressure greater than 21

Table 4.—Last Eye Examination

Garfield County Nursing Home	Number of Patients Screened	Date of Last Eye Exam ≤ 2 Years	Date Undeterminable
A	40	0	40
B	33	1	32
C	35	2	33
D	17	2	15
E	34	2	32
F	53	7	46
	Total 212	Total 14	Total 198
	Percent 7		Percent 93

Table 5.—Glaucoma History

Garfield County Nursing Home	Number of Patients Screened	Number of Patients with Determinable History of Glaucoma
A	40	0
B	33	0
C	35	0
D	17	0
E	34	0
F	53	1
	Total 212	Total 1
	Percent 0.4	

mmHg (two standard deviations from the mean) occurs in less than 2.5% of the normal population and a three standard deviation level of over 24 mmHg occurs in less than 0.15% of the normal population. Intraocular pressures equal to or greater than 24 mmHg would place patients at a high risk for having or developing glaucoma. Only 1 of the 212 nursing home patients gave a definite history of glaucoma, but many patients were poor historians and additional chart information was often incomplete or unavailable.

A surprisingly high percentage (33%) of nursing home patients had best corrected near visual acuity ≤ 20/200 in one or both eyes or ≤ visual acuity in one or both eyes (44%) at distance. That pinhole testing improved, by two or more lines, only 13% of these patients with distance visual acuity ≤ 20/200 suggested an ocular (corneal, cataract, retinal, vitreous, optic nerve, glaucoma) or neurological problem not amenable simply to a change in glasses prescription.

Weaknesses of this study include the use of different testing devices, techniques, and technicians for the different populations screened, minimal followup information or retesting confirmation, and limited historical information and occasional poor general responsiveness (in part related to diminished mental capacity) of the nursing home population.

Table 6.—Glaucoma Screening

Garfield County Nursing Home	Number of Patients Screened (Tested) for Glaucoma	Number of Patients with $\frac{S}{T} \geq 24$
A	29	3
B	8	0
C	12	0
D	6	0
E	20	2
F	22	1
	Total 97	Total 6
	Percent 6.18	

Table 7.—American Red Cross Community-Wide Health Fair Screening Results, April 4-6, 1984, Garfield County, Oklahoma

Screening Test	Number Screened	≤ 20/200	≥ 24 mmHg	(%)
Distance visual acuity	417	5		1.19
Near visual acuity	417	2		0.48
Glaucoma screening	273		7	2.56
Average age 50 years		Range of age 18-94 years		

Conclusion

If nursing home population screening for visual acuity and glaucoma has merit, as these statistics suggest, in what manner could this be coordinated to optimize follow-up on patients with abnormal screening results? Because of the time and expense involved, as well as training required for personnel performing the tests, existing organizations, such as the Society for the Prevention of Blindness, American Red Cross, public health department, or the community medical society, would be likely considerations.

This study suggests that there may be a surprisingly large number of nursing home patients who might benefit from medical or surgical eye care but are currently not receiving it.

Reference

1. American Red Cross, Garfield County (Oklahoma) Chapter Health Fair, April 4-6, 1984, Gina Duggin, RN. (Nonpublished information.)

Steven W. Newell, MD, FACS, is a clinical instructor in the Department of Ophthalmology, University of Oklahoma College of Medicine. He is a 1969 graduate of the university and is board certified.

special OSMA JOURNAL

Coming Attractions

Malcolm G. Robinson, MD

Coming Attractions is a preview of tomorrow in Oklahoma medicine, the first of what the JOURNAL hopes will become recurring features about ongoing clinical research projects in Oklahoma. Clinicians across the state are invited to submit similar brief accounts of studies in progress.

The following information represents an informal description of some of the ongoing programs of clinical investigation with which I am involved. Each of these studies has a number of potential ramifications, but I think details of the individual protocols need not be provided in a journal report. If any physicians are interested, additional information can certainly be provided.

▶ **One of the simplest studies being done currently involves Librax.** Roche is attempting to document the efficacy of this time-honored compound for treatment of irritable bowel syndrome. We are therefore looking for patients with symptoms suggesting irritable bowel syndrome to participate in the study. Basic laboratory studies and x-rays are provided to patients free of charge, and patients then will be given four "blind" doses of medication. These will include a single dose of Librax, doses of the two constituents of this combination drug (Librium and Quarzan), and a dose of placebo. Patients will simply record the effect of each agent on an episode of significant symptoms. This study is easy for the patients to complete, safe, and may provide some potentially valuable information as to the utility of this agent or lack thereof.

▶ **In a somewhat more sophisticated vein, we are studying the use of ranitidine in patients taking nonsteroidal anti-inflammatory drugs.** Drugs studied include Naprosyn, Motrin, Clinoril, Feldene, and Indocin. Patients about to begin one of these medications for any of the standard rheumatic indications will either be given ranitidine or a matched placebo in a double-blind fashion. Patients will be followed by upper gastrointestinal endoscopy for presence or absence of protection against the otherwise expected gastric and duodenal erosions and ulcerations. As a separate but related study, patients already on one of these nonsteroidal anti-inflammatory agents who are having any gastrointestinal distress will be given either ranitidine or placebo with similar endoscopic follow-up. Healing of mucosal lesions will be carefully assessed. Patients entering either of these studies will receive $400.00 as compensation for their participation. This is altogether reasonable since patients will be studied for a total of eight weeks, and each patient will undergo as many as four upper gastrointestinal endoscopic procedures.

▶ **Three separate studies of reflux esophageal disease (esophagitis) are either underway or very close to activation.** Patients with daily heartburn are sought for these studies, and they will be evaluated by upper gastrointestinal endoscopy, esophageal motility testing, and assessment of esophageal acid sensitivity. Patients will receive either active medication or placebo and will be fol-

lowed by symptom logs and by endoscopy and esophageal mucosal histology. Medications utilized for these investigations include enprostil and misoprostil, which are both E_2-type prostaglandins. These agents are antisecretory to about the same extent as cimetidine, and they also are believed to have highly significant cytoprotective effects. Early in 1985, a study should be underway of an agent known as cisapride. This drug is a so-called prokinetic agent that probably works through release of acetylcholine in the myenteric plexus. Cisapride should improve esophageal peristalsis, increase lower esophageal sphincter pressure, and should also enhance gastric emptying. Very few institutions have initiated studies of cisapride, which was rather recently formulated in Belgium.

▶ **There are currently studies of two new treatment modalities for ulcerative proctitis and ulcerative colitis.** One new agent is known as tixocortol pivalate. This was developed in France as an agent very much like beclomethasone in many ways. Tixocortol has strong steroid therapeutic effects. Probably because of a very rapid first pass metabolism, it seems to be free of the normal steroid-related side effects. Current studies compare tixocortol to standard therapeutic modalities for ulcerative colitis. A potentially even more exciting agent for inflammatory disease of the colon is 5 aminosalicylic acid (5-ASA). This "orphan" drug represents the active principle of Azulfidine, and 5-ASA seems to have very powerful anti-inflammatory effects when used topically in the left colon. Best of all, 5-ASA seems to be virtually free of significant side effects and to be extremely well tolerated. 5-ASA is given as a retention enema at bedtime, and it is being compared to placebo in patients with inflammatory disease of the colon. If patients do not improve in the initial two weeks of a total six- to eight-week study, crossover to known active agent is possible. Substantial preliminary experience with 5-ASA (including many patients who have not been responsive to other standard therapeutic modalities) indicates this is a very highly effective agent.

▶ **Finally, together with Dr William Orr in the Department of Clinical Physiology at Presbyterian Hospital, Oklahoma City, my GI colleagues and I are attempting to study patients with high amplitude peristaltic contractions in the esophagus.** This disorder, more commonly known as "nutcracker esophagus," has been quite difficult to treat. We are attempting to study calcium channel blocking agents and anticholinergic drugs in patients with this disorder (most of whom are experiencing significant problems with chest pain and/or dysphagia).

Many additional studies are in various stages of development. Colleagues at Presbyterian Hospital and elsewhere in the Health Sciences Center are involved in a great many scientific pursuits. I am sure many of them will be interested in providing this kind of information to your readership.

Malcolm G. Robinson, MD, Digestive Disease and Nutrition Section, Department of Medicine, Oklahoma City Clinic, 701 Northeast Tenth Street, Oklahoma City, Oklahoma 73104.

Malcolm G. Robinson, MD, is a clinical assistant professor of medicine at the University of Oklahoma College of Medicine. A 1968 graduate of the university, he is board certified in internal medicine and gastroenterology. His professional affiliations include the American Gastroenterological Association, American Society for Gastrointestinal Endoscopy, and American Psychosomatic Society. He holds Fellowships in the American College of Gastroenterology and the American College of Physicians.

News from the Oklahoma State Department of Health

Pediatric Nutrition Surveillance

In October 1982, the Nutrition and Pediatrics divisions of the Maternal and Child Health Service, Oklahoma State Department of Health, implemented the Pediatric Nutrition Surveillance System.

This computerized system, developed in cooperation with the Centers for Disease Control, monitors nutrition indices of 0- to 5-year-old participants in the Special Supplemental Feeding Program for Women, Infants, and Children (WIC). Since qualifications for the WIC program include being at nutritional risk, this population is not representative of the general population.

The reports generated from the nutrition surveillance system are used to determine prevalences of short stature, obesity, underweight, and anemia. This data is used in maternal and child health program planning by governing bodies studying child nutrition and the effectiveness of the WIC program, and by other nutrition programs to identify needs and to monitor ongoing changes or trends in the populations served.

Currently, height, weight, and hematocrit data are collected on approximately 33,000 children in Oklahoma under age 5. There are 105 sites collecting data. The inexpensive and simple-to-administer system collects measurement results that are routinely performed by local agency personnel, requiring no additional resources at the local level.

Due to the recent implementation of the program, nutrition trends for Oklahoma cannot yet be extrapolated from the data. The following table summarizes some of the findings of the 1983 data. □

1983 Summary Data — Pediatric Nutrition Surveillance

	Number Seen	Below 5th Percentile Weight-for-Height	Above 95th Percentile Weight-for-Height	Below 5th Percentile Hematocrit for Age/Sex
Asian	1,010	5.1%	7.2%	7.7%
Black	10,629	3.9%	8.5%	11.6%
Hispanic	3,944	2.6%	9.9%	14.9%
Indian*	2,892	2.0%	9.7%	9.7%
White	41,844	3.5%	7.2%	10.7%
State Average	60,319	3.5%	7.7%	11.1%

*Indian WIC programs are not included in data submitted to Centers for Disease Control.
WIC programs are administered directly by the Cherokee, Tonkawa, Chickasaw, Choctaw, and Pottawatomie Indian tribes.

DISEASE	October 1984	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	0	6	12	20
CAMPYLOBACTER INFECTIONS	27	172	191	—
ENCEPHALITIS, INFECTIOUS	0	19	33	25
GIARDIA INFECTIONS	24	210	220	—
GONORRHEA (Use ODH Form 228)	1363	11062	12997	15441
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	18	164	128	—
HEPATITIS A	30	376	676	404
HEPATITIS B	18	150	270	212
HEPATITIS, NON-A NON-B	1	39	42	—
HEPATITIS UNSPECIFIED	6	84	173	173
MEASLES (RUBEOLA)	0	8	1	143
MENINGITIS, ASEPTIC	23	105	331	157
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	5	40	61	44
MENINGOCOCCAL INFECTIONS	1	24	31	24
PERTUSSIS	2	238	302	98
RABIES (Animal)	5	93	99	210
ROCKY MOUNTAIN SPOTTED FEVER	2	114	214	104
RUBELLA	0	0	0	2
SALMONELLA INFECTIONS	31	338	523	381
SHIGELLA INFECTIONS	17	178	210	251
SYPHILIS (Use ODH Form 228)	23	167	185	139
TETANUS	0	2	0	0
TUBERCULOSIS	22	181	213	264
TULAREMIA	2	19	29	23
TYPHOID FEVER	0	3	3	0

Diseases of Low Frequency	Total to Date This Year
ACQUIRED IMMUNE DEFICIENCY SYNDROME	8
BRUCELLOSIS	4
LEGIONNAIRES DISEASE	18
MALARIA	8
REYE SYNDROME	14
TOXIC SHOCK SYNDROME	14
RABIES	
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GRADY	SKUNK 1
PONTOTOC	SKUNK 1
TILLMAN	SKUNK 1



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OSMA seminar topics include management, financial planning

A series of management and financial planning seminars for members of the Oklahoma State Medical Association (OSMA) has been scheduled for 1985. Arranged by the association's Council on Member Services, the seminars are designed to help physicians manage their practices and financial affairs.

The series actually began in November with six practice management seminars on collecting medical accounts and law for medical office personnel, and a special half-day program for new medical office employees. The seminars were conducted by OSMA Legal Counsel Ed Kelsay.

Workers' Compensation will be the subject of a seminar scheduled for Saturday, February 2, in Oklahoma City. The morning portion of the program will be on the use of the newly published second edition of the American Medical Association's *Guides to the Evaluation of Permanent Impairment.* This book has now been officially adopted by the Oklahoma Workers' Compensation Court, and its use in evaluations became mandatory January 1.

The afternoon portion of the seminar will deal with the legal requirements for report writing, working with attorneys, billing and collection of workers' compensation cases, and the treating of physician's rights before the Workers' Compensation Court.

The two sessions will be treated as separate seminars. Physicians are encouraged to attend the morning session and then bring their medical office assistants to the afternoon program.

A special brochure describing the entire seminar series is being mailed to all OSMA members in early January.

"Increasing Your Net Worth" is the title of a special one-day financial planning seminar scheduled for Saturday, February 16, in Oklahoma City. It will be presented by the Glazer Financial Group of Dallas, Texas.

The program was originally developed for the Texas Medical Association and was designed to teach strategic financial planning to physicians and their spouses. It covers such things as how to use techniques available under current law to establish the most effective business structure for the medical



Ed Kelsay's seminars for the OSMA are entertaining as well as informative.

State Workers' Comp Court adopts AMA guidelines

Oklahoma's Workers' Compensation Court has formally adopted the AMA's *Guides to the Evaluation of Permanent Impairment,* second edition, for use by physicians in the evaluation of all permanent impairments. The court ruling became effective January 1, 1985.

The second edition of the guide, published early in 1984, makes extensive changes in evaluation measurements and interpretations, but does not change the impairment evaluation system. It contains some new material and approximately 80 additional pages of information.

The court ruling specifies that all examinations made after January 1 must follow the new book. The book is to be used "by examining physicians as a guideline in their evaluations of all permanent impairments, with the exception of loss of use or amputations of scheduled members." The ruling goes on to state, "In any case where the examining physician deviates from the 'guide,' the basis for the deviation shall be stated with full medical explanation."

The new book is available from the Oklahoma State Medical Association (OSMA) at a cost of $29 per copy, which includes postage and handling. Orders for the book should be accompanied by a check in the appropriate amount, and the books will be shipped immediately. □

OSMA seminar topics (continued)

practice, how to minimize federal income tax liability (both corporate and personal), how to increase net worth by deferring tax liability on current income, and how to create additional funds for practice development and growth.

A single registration fee of $125 per physician will be charged, but the physician's spouse is included.

"Gearing Up For Retirement" is the title of a special seminar to be offered Friday, March 15, by the OSMA. Originally developed by the American Medical Association's Practice Management Division, the seminar is designed for the physician who is considering retiring within the next ten years.

Taught by the AMA's Practice Management Division personnel, the seminar will help the physician plan systematically for retirement. It will discuss the ethical, legal, and financial considerations of leaving practice.

Tentatively scheduled for the summer in Oklahoma City and Tulsa are "Collecting Medical Accounts" and "Telephone Collecting." Designed primarily for the administrative medical assistant in charge of billings and collections for a physician office, each seminar takes half a day, with the collection program in the morning and the telephone presentation in the afternoon.

In the fall the council may repeat the new employee seminar for medical assistants who have been employed less than 18 months in a physician's office, "Computer in the Medical Office" for physicians thinking about computerizing their practices, and "Building Your Practice," a program on practice marketing. □

Physicians urged to consider hazards of patients' workplace

Physicians have an obligation to their patients and the public to recognize, treat, and work to prevent occupation-related illness and injury, says the American College of Physicians (ACP).

The national medical specialty society, in a November position paper, urged its members and all physicians to tal an active role in their patients' occupational he: .1 needs.

"Millions of workers in this country are exposed to silica, asbestos, cotton, and other dusts" suspected of causing occupational lung disease, says the ACP statement. Many other workers risk the effects of daily exposure to the more than 300 billion pounds of synthetic organic chemicals produced yearly in the US, and more and more diseases are being linked to specific chemicals.

The growing awareness among workers of the dangers associated with some work environments leads many to consult with their physicians about the safety of their jobs, the ACP says. The society advises physicians to keep an occupational history along with the medical history of all patients of working age. Several examples of occupational history forms are included with the statement; each inquires into the patient's work background and that of family members and questions the patient about past and present exposure to known hazards.

The ACP paper also addresses the confidentiality of medical records and the physician's obligation to

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Alzheimer's marked by lower glucose metabolism in brain

Positron emission tomography (PET), when used to observe glucose metabolism in the brain, has accurately differentiated persons with Alzheimer's disease from normal elderly subjects. A report in the *Journal of the American Medical Association* (*JAMA*, Nov 15) describes the noninvasive procedure that promises early recognition of the often debilitating dementia.

Robert P. Friedland, MD, of the Veterans Administration Medical Center in Martinez, Calif, and colleagues measured the metabolism rate of glucose in the brains of two patients with Alzheimer's disease and compared their rates with those of seven healthy controls. All subjects were in their sixties. The two subjects with Alzheimer's showed reduced metabolism of glucose in the temporal-parietal cortex. In both patients this was more pronounced on the right side and was clearly visible in the PET images of their brains. The researchers found that the rate of metabolism in this region in normal patients is substantially higher and is equal to the rate of metabolism in the frontal cortex.

"These changes have been found in all of 16 other subjects with Alzheimer's disease studied . . . in our laboratory and are not found in healthy, aged subjects," the researchers say. "Similar findings have also been reported by others." □

Patients' workplace (continued)

a patient's employer when performing pre-employment screening examinations, giving periodic health examinations, and reporting for cases involving workers' compensation. "The physician's obligation to the patient's employer . . . is limited to provision of medical advice only about the patient's ability to work with or without restrictions," the ACP says. Also, according to the ACP, "the physician has an obligation to inform the patient of the findings and their implications. The patient should be informed if any disability or disease may be work-related and possibly compensable under law." □

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Neonatal intensive care unit fosters hepatitis A outbreak

Infants receiving blood transfusions may be at risk of acquiring hepatitis A virus. According to a report in the *Journal of the American Medical Association (JAMA*, Nov 15), infants with the virus may show no symptoms and yet transmit it to nurses and others caring for them.

Robert C. Noble, MD, of the University of Kentucky College of Medicine, and colleagues say that 11 newborns in one neonatal intensive care unit were infected by blood from a single donor. This caused an outbreak of 55 cases of hepatitis A, 35 of which were symptomatic. It was later determined that the person who donated the blood had become ill with flulike symptoms and jaundice one week after the donation.

The researchers note that transmission of hepatitis A by transfusion is rare, but that a nursery or neonatal intensive care unit seems to be an ideal setting for transmission of the virus to personnel or other infants. Blood from one donor is often used for

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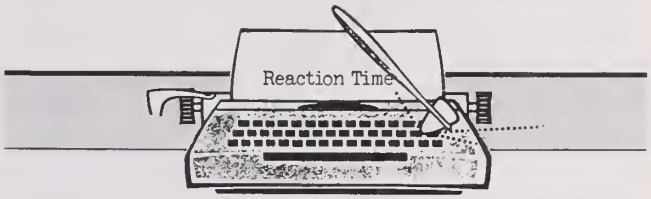
more than one infant, and many nurses have contact with the asymptomatic infants, which compounds the problem. In this case, three infants who had not received the infected blood also acquired asymptomatic hepatitis A, as did six hospital employees. Symptomatic hepatitis occurred in one physician, ten nurses, eight other hospital staff members, eight immediate family members, and eight relatives.

In a related editorial, George F. Grady, MD, of the Massachusetts Department of Health, Boston, says, "The appearance of hepatitis A in this setting is the most recent signal that transfusion practices must be under constant reassessment." He adds that studies suggest that newborns have an immunologic vulnerability to hepatitis A, as they do to cytomegalovirus. Antibodies for both infections can be detected through blood tests, Grady notes, but there is no test to confirm the presence of active virus. He advises improving staff hygiene practices, reducing the volume of blood transfused whenever possible, and using blood from only one donor for each infant. □

In Memoriam

1984

Jack H. Foertsch, MD	*January 19*
Thomas L. Ozment, MD	*February 11*
Thomas L. Foster, MD	*February 25*
Robert W. Lowrey, MD	*February 27*
Ella Mary George, MD	*March 1*
Kemper C. Lain, MD	*March 8*
William R. Cheatwood, MD	*March 12*
William A. Dean	*March 19*
Charles H. Cooke, MD	*March 23*
Donald J. Worden, MD	*April 1*
William I. Jones, MD	*April 3*
Paul Kernek, MD	*May 9*
Leon C. Freed, MD	*June 12*
William D. Bolene, MD	*June 18*
Lee K. Emenhiser, MD	*June 26*
Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Oliver H. Patterson, MD	*October 13*



I'd do it again, Tulsan assures MRJ

To the editor: Our profession has allowed and continues to allow unqualified physicians to do operations which they should not have attempted. This led to a loss of confidence on the part of the public. This was reflected in the election of officials who favor the rules and regulations you describe in your editorial ["Sad Consensus"] in JOSMA of November, 1984.

Having practiced surgery in Tulsa from 1948 through 1978, I am well aware of the problem and did make an effort to correct it. We succeeded in the major hospitals in Tulsa but the smaller towns were unaffected. And so to this extent we were forewarned — either we regulate (from the surgical standpoint) or we will be regulated.

This is only a segment of the problem, I realize, but it was a contributing factor which could and should have been avoided. I am not a part of the "sad consensus" — I believe one can see patients, examine them, talk with them and treat them, which should be the only reason for going into medical practice.

I would do so today.

James B. Thompson, MD
Tulsa

Life Memberships approved by Board of Trustees in November

Nine new Life Memberships were approved by the Oklahoma State Medical Association (OSMA) Board of Trustees at the November 11 meeting.

The memberships were approved for Vance A. Bradford, MD; Vernon D. Cushing, MD; and Charles E. Leonard, MD, of Oklahoma City; Manuel Brown, MD, and Ralph L. Nicholson, MD, of Tulsa; Ross P. Demas, MD; Robert P. Dennis, MD; and Joseph N. Mitchell, MD, of Lawton; and Thurman Shuller, MD, of McAlester.

To be eligible for a Life Membership, an OSMA member must meet one or more of the following qualifications: (1) Be retired from the active practice of medicine due to ill health or age; (2) Be engaged in the active practice of medicine for 50 years or more; (3) Be 70 years of age or older. □

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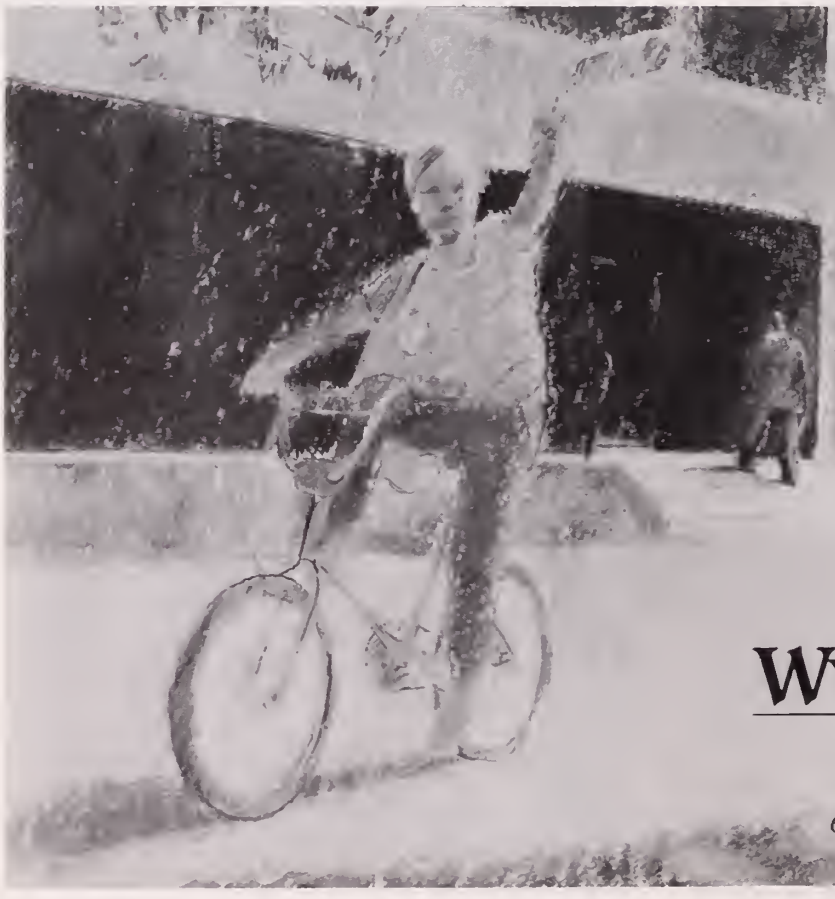
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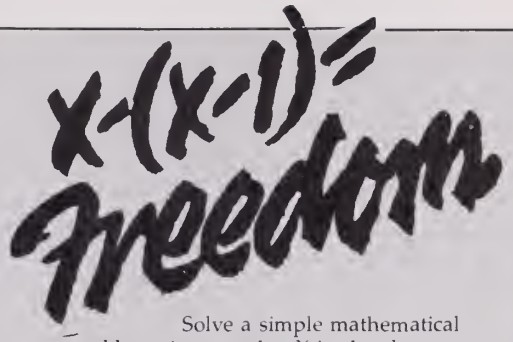
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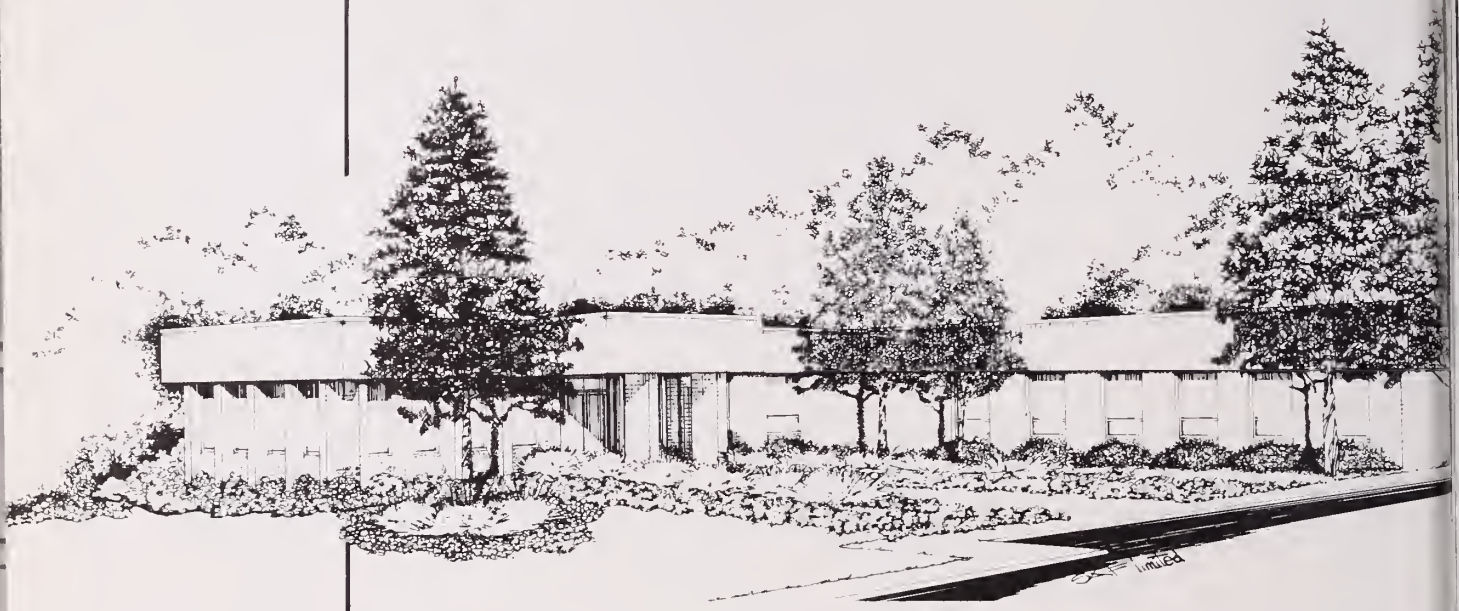
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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

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Authors will receive reprint order forms from the Transcript Press, PO Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

The Changing Face of Medicine - 1985

Please mark your calendars for Wednesday, February 27, 1985, and plan to attend Auxiliary's State Legislative Day at the capitol.

Last year's theme, "The Changing Face of Medicine," continues to be applicable today. While the previous year's program focused mainly on legislative concerns of physicians, this year's program will focus on the legislator's perspective on health care issues.

The program will address three basic questions affecting health care and quality of life in the state of Oklahoma: What are the health-related legislative issues that the state of Oklahoma must address in the upcoming session? How does the legislature plan to address them? How can the medical community most effectively influence legislative decisions?

Legislative decree, in overabundance and at all levels of government, has changed the practice of medicine and the quality of health care in grave and unalterable ways. The medical Auxiliary believes in participation in affecting health care legislation, and needs and solicits your attendance on February 27th. Choose to participate!

Sincerely,
Ellie Idstrom
Chair, Legislative Committee

You may register for this event, which includes a catered lunch, by mailing this form with a $10 check made out to OSMAA by February 14, 1985. Mail to:

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■ **It appears that freebase cocaine can cause adverse** pulmonary effects that need to be considered in the medical evaluation of any patient with such a drug history, say Jerry Itkonen, MD, of Northwestern University School of Medicine in Chicago, and colleagues writing in the November *Archives of Internal Medicine*. They evaluated 19 consecutive smokers of cocaine admitted to their clinic and found 12 had respiratory symptoms and 10 noted dyspnea (labored breathing). "On the basis of our results, we believe that freebase cocaine use frequently produces pulmonary gas exchange abnormalities that appear after relatively brief periods of abuse," they say, adding that the abnormalities may persist after cessation of cocaine use.

■ **Linguistic analysis of language used by the** aged may offer the best answer to whether aging is a natural process, the result of a continuum of minor pathological insults, or a combination of both, says Macdonald Critchley, MD, FRCP, of National Hospital, London, in the November *Archives of Neurology*. He points out that some writers use more verbs and fewer adjectives as they age, and that the aged often use fewer different types of words within language blocks than do young adults. He believes linguistics can make an important contribution to the understanding of the aging process.

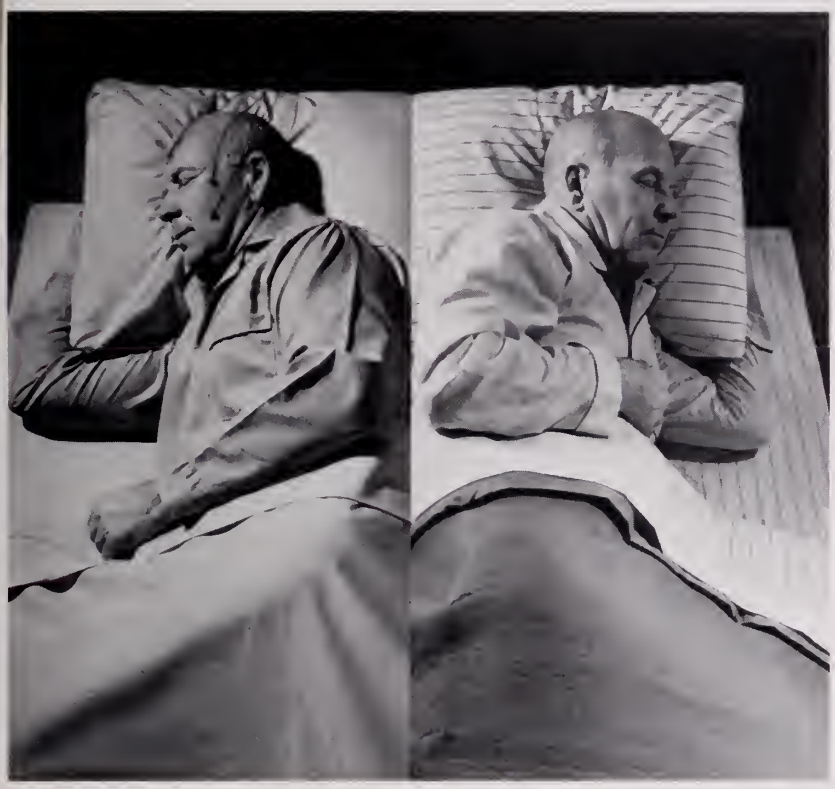
■ **Poor predictability with variable results is the** major problem with radial kerototomy today, says Perry S. Binder, MD, of La Jolla, Calif, in the November *Archives of Ophthalmology*. He says the National Eye Institute has now completed the second year of its multicenter study of the procedure and that expertise is growing. "The procedure is capable of correcting approximately 4 to 5 diopters of myopia," he says. "Ophthalmologists must discuss the variability of the procedure with their patients, explain the potential and reported complications, and present the alternatives of continuous or daily wear contact lenses."

■ **Oklahomans are among the 800 pediatricians** in 13 states included in a new study by the American Academy of Pediatrics (AAP). The report indicates that pediatrician participation in state Medicaid programs is on the decline, and that in Oklahoma the participation rate slipped from 95% in 1978 to 93% in 1983. Individual state reports outlining pediatrician participation patterns within the context of changing poverty and Medicaid environments are available from the AAP, Department of Health Services Research, PO Box 927, Elk Grove Village, IL 60007.

■ **The AMA has set up a professional liability** hot line to allow members to communicate directly with association staff about malpractice and professional liability issues. The number is 800-552-4642 for those calling from outside Illinois. The hot line is a project of the special task force created by Executive Vice President James H. Sammons, MD, to coordinate AMA activities in this area.

■ **Physicians with better personal health habits** and more positive attitudes toward offering advice counsel a broader range of patients and counsel more aggressively, say researchers from the Rand Corporation of Santa Monica, Calif, and from Los Angeles, in the *Journal of the American Medical Association (JAMA,* Nov 22). Kenneth B. Wells, MD, MPH, and colleagues say they examined the relation of physicians' clinical specialty, personal health habits, and health-related beliefs to their practices in counseling about smoking, weight, exercise, and alcohol use. Those with good habits counseled good habits. "Surgeons counsel less than nonsurgeons, even after controlling for differences in health-related attitudes and personal habits," the researchers add.

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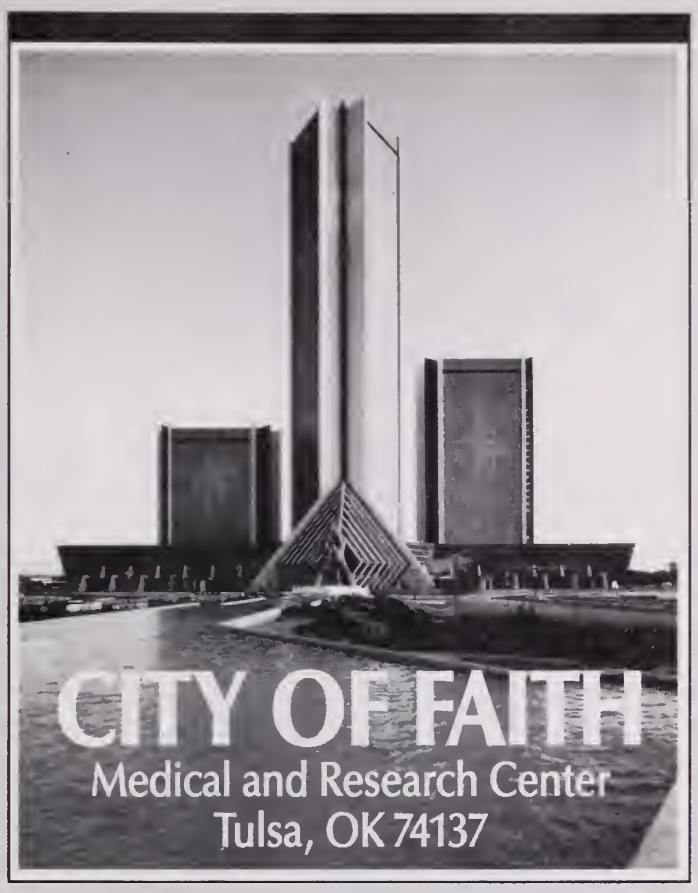
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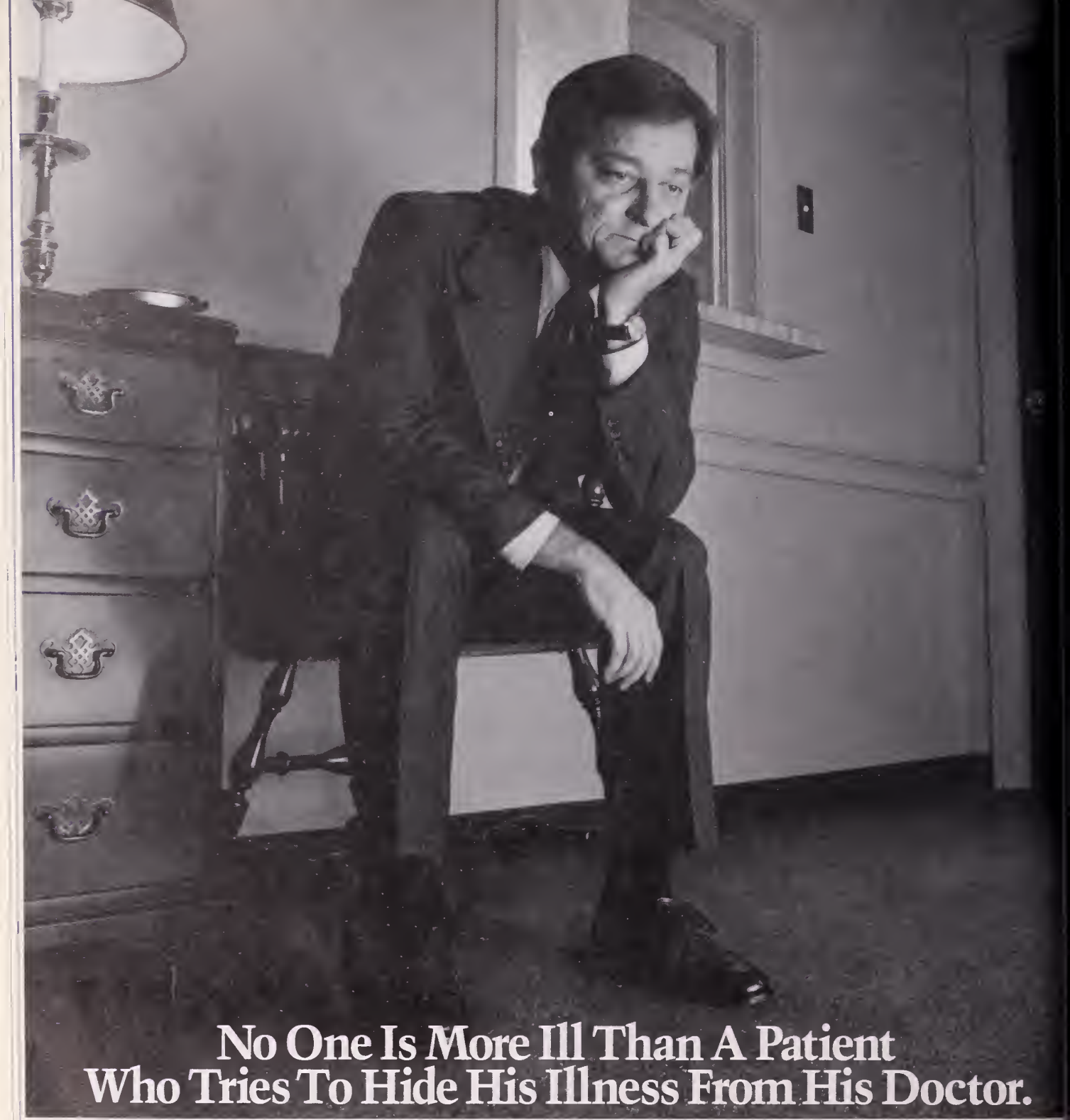
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by Brent Johnson, Oklahoma City
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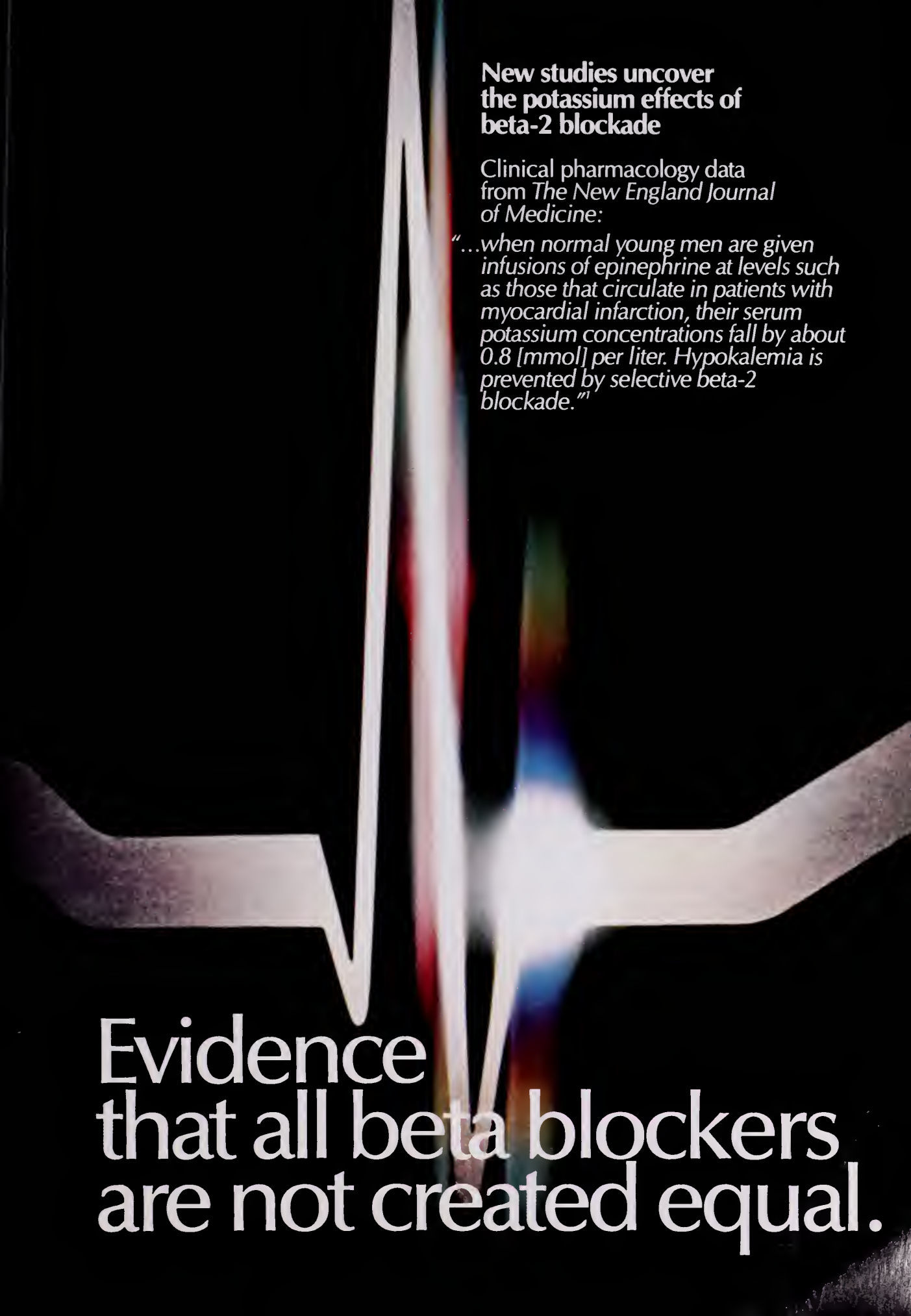
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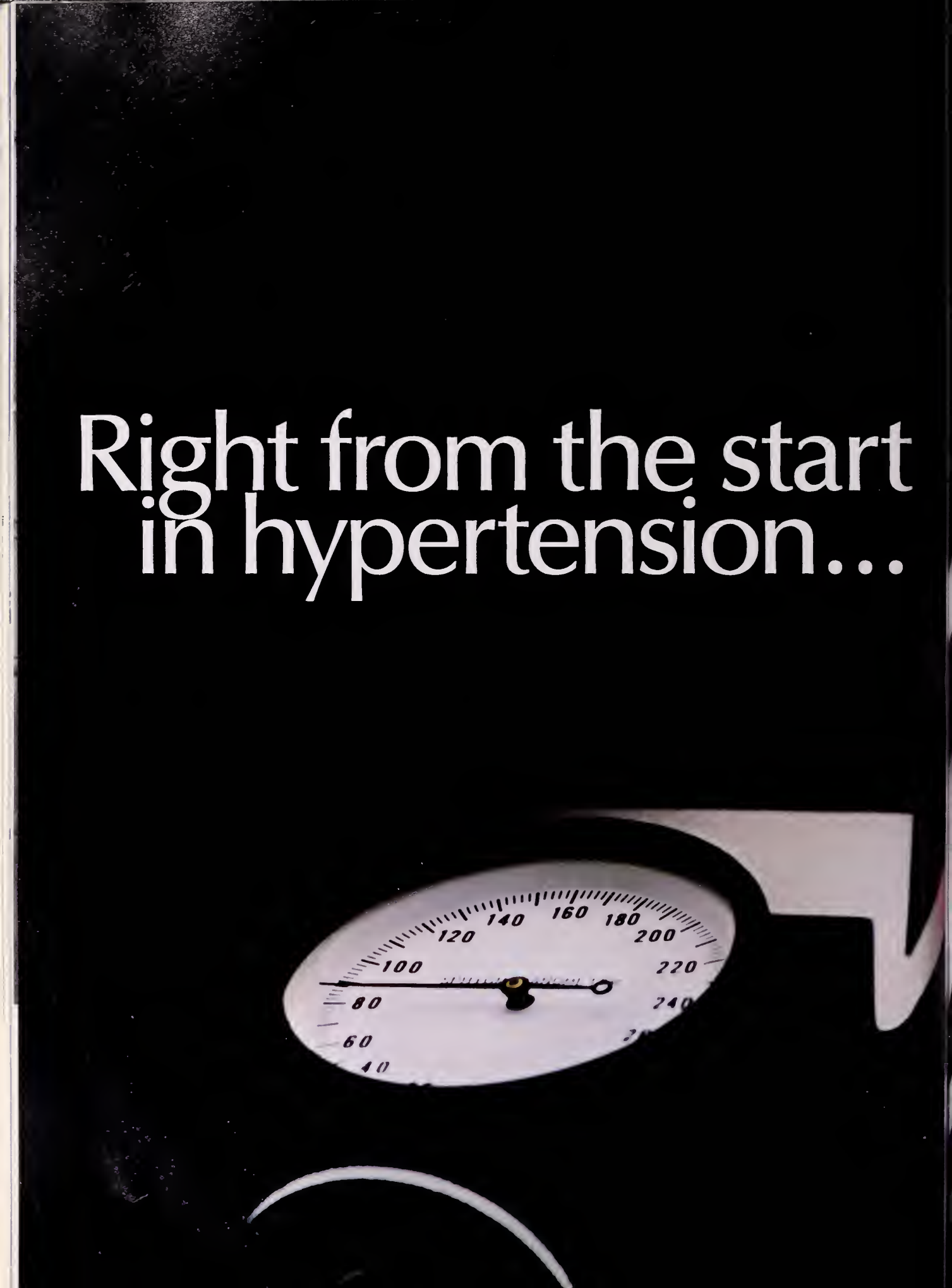
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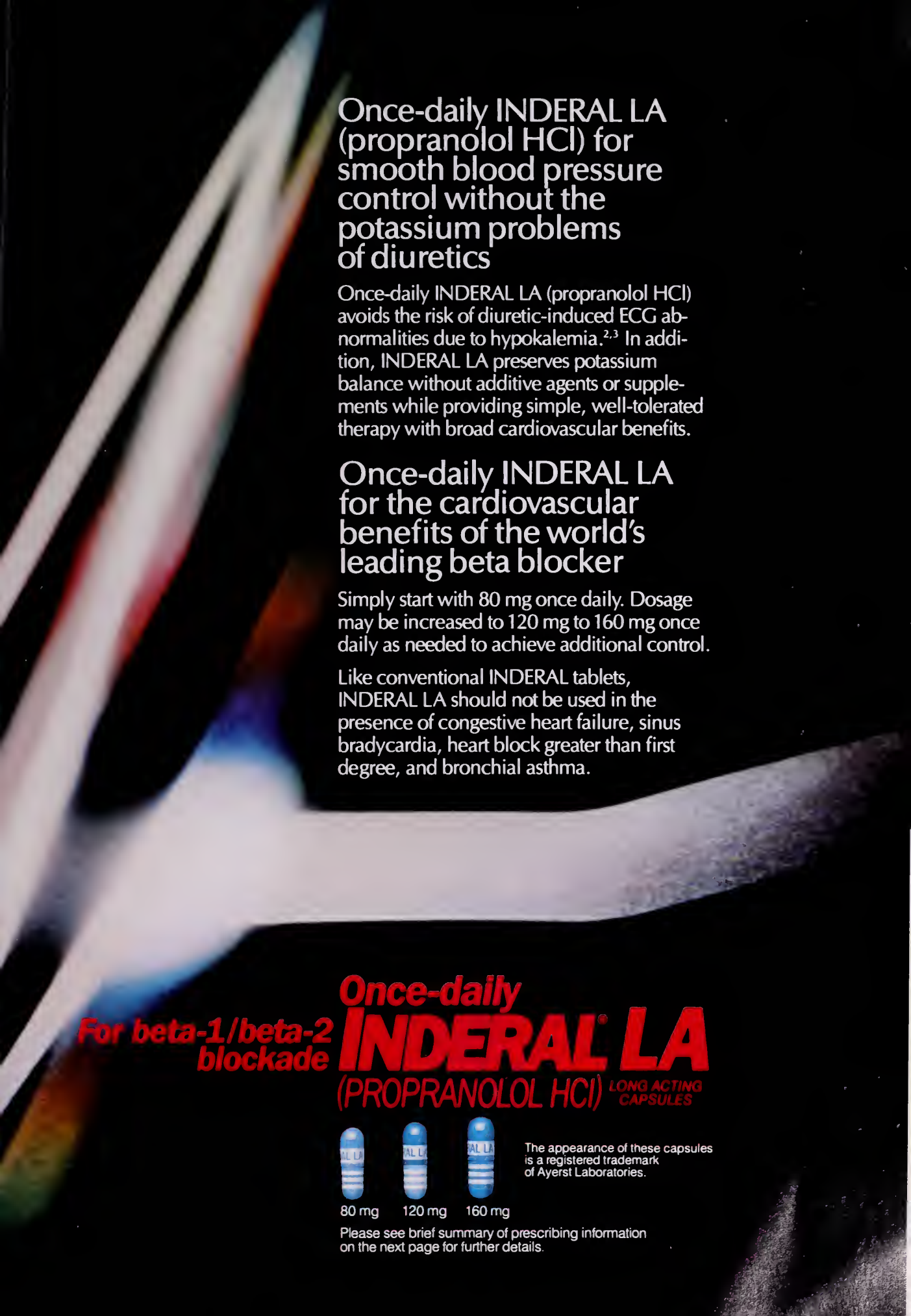
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New studies uncover the potassium effects of beta-2 blockade
Clinical pharmacology data from The New England Journal of Medicine:
"...when normal young men are given infusions of epinephrine at levels such as those that circulate in patients with myocardial infarction, their serum potassium concentrations fall by about 0.8 [mmol] per liter. Hypokalemia is prevented by selective beta-2 blockade."[1]
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For beta-1/beta-2 blockade

Once-daily

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80 mg 120 mg 160 mg

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Please see brief summary of prescribing information on the next page for further details.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely. If INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of receptor agonists and its effects can be reversed by administration of such agents dobutamine or isoproterenol. However, such patients may be subject to protracted hypotension. Difficulty in starting and maintaining the heartbeat has also been reported beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent pearance of certain premonitory signs and symptoms (pulse rate and pressure chan acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may b difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyr Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of sym of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid functio

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have reported in which, after propranolol the tachycardia was replaced by a severe brad requiring a demand pacemaker. In one case this resulted after an initial dose of propranolol.

PRECAUTIONS. *General.* Propranolol should be used with caution in patients with i hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatm hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure. Pa should be told that INDERAL may interfere with the glaucoma screening test. Withdraw lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart d elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as pine should be closely observed if INDERAL is administered. The added catecho blocking action may produce an excessive reduction of resting sympathetic nervous which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orth hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility. Long-term studies in animal been conducted to evaluate toxic effects and carcinogenic potential. In 18-month stu both rats and mice employing doses up to 150 mg/kg/day, there was no evidence of sig drug-induced toxicity. There were no drug-related tumorigenic effects at any of the levels. Reproductive studies in animals did not show any impairment of fertility th attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryo animal studies at doses about 10 times greater than the maximum recommended huma

There are no adequate and well-controlled studies in pregnant women. INDERAL be used during pregnancy only if the potential benefit justifies the potential risk to the

Nursing Mothers. INDERAL is excreted in human milk. Caution should be exercise INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block tension; paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by ins lassitude, weakness, fatigue, reversible mental depression progressing to catatonia disturbances, hallucinations, an acute reversible syndrome characterized by disorienta time and place, short-term memory loss, emotional lability, slightly clouded sensoriu decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, di constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocyt purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male tence, and Peyronie's disease have been reported rarely. Oculomucocutaneous rea involving the skin, serous membranes and conjunctivae reported for a beta blocker (pra have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochlor sustained-release capsule for administration once daily. If patients are switched from IND tablets to INDERAL LA capsules, care should be taken to assure that the desired thera effect is maintained. INDERAL LA should not be considered a simple mg for mg substi INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitrati be necessary especially to maintain effectiveness at the end of the 24-hour dosing i

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is INDERAL LA once daily, whether used alone or added to a diuretic. The dosage m increased to 120 mg once daily or higher until adequate blood pressure control is ach The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage mg may be required. The time needed for full hypertensive response to a given dos variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDEF once daily, dosage should be gradually increased at three to seven day intervals until op response is obtained. Although individual patients may respond at any dosage lev average optimum dosage appears to be 160 mg once daily. In angina pectoris the val safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDEF once daily. The usual effective dose range is 160-240 mg once daily. The dosage m increased gradually to achieve optimum migraine prophylaxis. If a satisfactory respons obtained within four to six weeks after reaching the maximum dose, INDERAL LA s should be discontinued. It may be advisable to withdraw the drug gradually over a pe several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group limited to permit adequate directions for use.

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A Divine Suggestion

Are you worried about being sued for malpractice or abandonment or technical assault or an honest mistake?

Does the name of a law firm in the return address corner of an envelope addressed to you strike you with pallor, tachycardia, and weakness?

Are you upset and complaining about the high and rising cost of your professional liability insurance?

Are you weary of practicing defensive medicine and ordering countless, expensive diagnostic studies in order to protect yourself?

Have you indulged your bigotry to the extent that you now hate all lawyers — even your own?

If any of these questions describes your disposition or condition and you can answer "Yes" to any one of them, pay attention. I've got a suggestion you can't ignore. Unless, of course, you are dedicated to the acquisition and possession of liquid assets and material treasures. If you are, read no further; my suggestion will be not only worthless to you, it will be ridiculous. But here a word of caution: If a majority of your premium-paying colleagues are less parsimonious and act on my suggestion, your professional liability premiums will rise abruptly and markedly — perhaps to the extent that you will be forced to spend all your liquid assets and sell all your treasures in order to pay them. So maybe you should at least read my suggestion while it's handy. You might run out of options.

There is really nothing new or original about my suggestion. It's been around for years, but with each recurring "malpractice crisis," it becomes more reasonable and rational. Also, with each defeat by state legislatures of tort reform measures, it appears to be emerging as our *only* recourse.

Adoption of the suggestion requires that three fairly simple steps be taken. They lead to a circumstance referred to as "going naked."

First, divest yourself of all your financial assets and reduce your net worth to the lowest possible figure. Here you must obtain and follow expert advice, preferably from an experienced tax attorney whose credentials include a demonstrated knowledge of the complex methods of sheltering and shielding assets. I realize that, for most of us, this stride into poverty will be a very short step but we must be prepared to deal with some unlikely and surprising windfall such as inheriting a fortune or receiving full payment of all our past due accounts.

Once achieved you will appreciate the bountiful rewards of poverty, the unique and exhilarating degree of real and absolute freedom it imparts. You will be purged of all your anxieties, phobias, and fears about malpractice vulnerability. You will be judgment proof, anathema to prowling claims attorneys and litigious-minded patients.

Finally, post a notice in a prominent place in your waiting room announcing in clear, unmistakable words that you do not carry professional ("malpractice") liability insurance and that your total net worth is in the neighborhood of zero. If your attorney recommends that you prepare a similar notice for each of your patients to sign, certifying their understanding and acceptance, do so, by all means.

You might want to add statements that explain your reasons for taking such steps, most of which would be reassuring to your patients. For example:

- I will no longer ask you to pay for expensive tests and studies which serve only to provide legal protection for me.
- I will no longer ask you to carry the financial burden of my professional liability insurance premiums which are inflated — with daily regularity — by the exorbitant and unjustifiable awards made by juries after hearing thousands of malpractice suits every week.
- It is enough that I ask you to support me by paying my fee for your care; therefore, I will not ask you to support an attorney who shares the monetary compensation awarded the patient of another physician.
- I believe in God and I observe acts of God every day. When the results are beneficent, I will not accept credit for them. When they are tragic, I will not accept blame for them. In either circumstance, I will not ask you to pay for them.
- I am not in the practice of medicine to gain material wealth. I am in the practice of medicine to gain love and respect, not only for myself but for my profession as well.
- All my decisions represent what I truly believe is best for you. What is best for me is never a consideration in any of my recommendations.

I'm sure you can think of other statements you might wish to make, but before putting them into words or print, get your attorney's advice.

Knowing that hospital boards write their bylaws with benefit of counsel, and that legislatures contain a high concentration of lawyers, and that insurance companies employ swarms of attorneys, I fully appreciate the potential inhibitory reactions which could follow the widespread adoption of my suggestion. However, the evolutionary drama would be fascinating to watch and would, undoubtedly, produce interesting results. If the costs of malpractice litigation and liability insurance and defensive medical practices were applied to the costs of health care by fiat or mandate, perhaps patients would view them in their true light.

Prior to the enactment of effective countermeasures we could see some really amazing things happen. Attorneys would begin a mass emigration from Oklahoma. Legislators would seriously consider proposals for tort reform. Court dockets would more readily accommodate criminal cases. The cost of medical care would decline. The awareness of a divine influence in our daily lives would sharply increase. And undoubtedly other, unexpired miracles would occur.

As a final reward for our voluntary divestiture of all wordly treasures, we could then quiet another common anxiety: how to negotiate a camel through the eye of a needle.

—MRJ

Monkey See, Monkey Do . . .



Late-year musings, '84, while wondering how big the post-Christmas bills will be!! Why shouldn't our benevolent Uncle Sam absorb part of our risks by establishing JewelerCARE for us, or, for that matter, Victual-CARE* — even VISAcare — since those "rights" can be as costly or more expensive than medical care!!

The answer is obvious, of course, . . . "NO WAY" . . . since all those other "-cares" can escalate rapidly out of sight if stimulated by such schemes. Then we would have to accept the rationing of pretty baubles, fancy foods, wines, et al. Perhaps we enrollees would be subjected to pre-charge scrutiny on *all* VISA-charged items, based on appropriateness criteria. All this because . . . surprise . . . the Federal government resources are NOT infinite, they're FINITE . . . *they are US!!*

Even the politicians are getting skittish about launching new subsidy programs as outlandish as the examples I've used — and particularly since such programs traditionally have been super vote-getters. Fiscal reality . . . previously scorned by government spenders . . . has flattened the budgets of other federally sponsored programs, but the Medicare changes have become far, far more visible to us. Now we have to deal with more potential restraints on our care of sick Medicare "beneficiaries" — NOT "insureds" — and to "participate" may actually constitute becoming a subsidizer ourselves!

If that were not enough, look to the private sector for relief and, you think, a place to recapture your losses. More and more, health insurers have and will embrace the DRG concept . . . peer (appropriateness) review is moving from the shadows into the light, particularly among the contracts floating, buzzing, or being circulated and promoted around. The verbiage of one contract I read recently was amazingly close to the Federal PRO . . . except that OFPR's denial of reimbursement to the patient for hospitalization, based on appropriateness of care, is mainly PROSPECTIVE, while the PPO contract I read mentions review (by whom?) and possible rescission of claims paid . . . *after the fact!!*

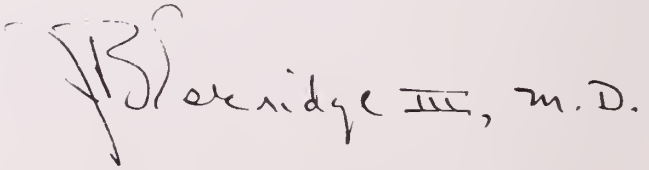
And what of the "gatekeeper" in some of the competition-inspired systems? Will he/she not be called upon to subsidize "client(s)" if planning figures prove to be far less than the actual needs of the patients who have delivered themselves, confidently, into the gatekeeper's management? . . . *Read the contracts!!*

* * *

Now the momentum seems to be on "their side." Your own financial stability may soon be at even greater risk, particularly if the leader in this game (the Federal government) becomes even bolder by embracing the "gatekeeper," mandatory assignment for ALL physicians, et al . . . and the "monkey see, monkey do" act flourishes.

The silver-colored lining, however, is this: none of these trends can take away the intangible gains we receive in medical practice; the knowledge of a correct diagnosis, the providing of effective treatment, and the gratitude patients often feel — and occasionally vocalize — when they get well; the genuine satisfaction of caring for our patients; the good all of us do for others.

Certainly, man does not live by bread alone!



* pronounced "vittlecare"

scientific OSMA JOURNAL

Continence-Preserving Operations in the Management of Ulcerative Colitis

Russell G. Postier, MD; Vincent O'Malley, MB;
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In the past, operations for ulcerative colitis routinely required a permanent ileostomy, but now operative techniques offer the potential for retaining fecal continence in most patients.

Ulcerative colitis is a disease of unknown cause which tends to affect patients in the most productive years of their lives. It results in substantial morbidity and some mortality. During the last decade, technical advances have been made that have increased the surgical options available and hold promise for preserving fecal continence in a substantial number of patients with ulcerative colitis. The purpose of this review is to outline current knowledge of the surgical treatment of ulcerative colitis with emphasis on the role of newer operations that preserve fecal continence.

History

Ulcerative colitis was first described by Wilks and Moxon in a monograph entitled "Lectures on Pathological Anatomy" published in London in 1875.[1] The first operation specifically designed to treat ulcerative colitis was appendicostomy, performed by Weir in 1902.[2] The goal of this form of therapy was diversion of the fecal stream to allow the inflamed colonic mucosa to heal. The major proponent of this operation was Lockhart-Mummery of Great Britain, who continued to advocate this form of therapy as late as 1940.[3] Because of the difficulties in maintaining adequate fecal diversion via an appendicostomy, Brown, in 1913, performed ileostomy leaving the colon in place.[4] This operation rapidly became the standard in the United States. It was hoped that by totally "resting" the colonic mucosa, complete healing would occur and the ileostomy could then be closed. This rarely was possible. In addition, in a number of patients it was found that continued troublesome discharge per anum, continued poor health, or extracolonic problems such as arthritis or skin disorders would require subsequent total or near total colectomy for relief. Further, with Bargen's report in 1928, the malignant potential in ulcerative colitis became apparent and spurred further interest in resection therapy.[5] In the late 1940s and early 1950s, Miller and Crile began to report and advocate ileostomy with immediate colectomy as the surgical treatment of choice for ulcerative colitis.[6,7] In 1953, Aylett reported subtotal colectomy with ileorectal anastomosis as an alternative to ileostomy and proctocolectomy, and there continue to be some that advocate this approach.[8] In 1947, Ravitch and Sabiston reported subtotal colectomy, rectal mucosectomy, and ileoanal anastomosis in dogs and suggested that this operation might have application in ulcerative colitis.[9] In 1948, Ravith reported his results with this operation in man.[10]

Parallel to these changes in surgical thinking came advances in the techniques for constructing ileostomies. Prior to 1952, ileostomies had been constructed by merely leaving a 5 cm segment of terminal ileum projecting beyond the abdominal wall. An inflammation of the serosa would uniformly occur

with subsequent contraction and stenosis. Partial obstruction was the result in many cases. Brooke, in 1952, and Turnbull, in 1953, described techniques for everting the distal ileum onto itself with direct suture of the everted ileal mucosa to the skin.[11,12] This technique prevented most of the complications of ileostomy and was a major advance in the treatment of ulcerative colitis. A further modification in ileostomy construction occurred in 1969, when Kock of Goteborg, Sweden, introduced the continent ileostomy with intraabdominal reservoir.[13] This provided continence and obviated the need for an ileostomy appliance.

Pathology

Ulcerative colitis is primarily a disease of the mucosa and to a lesser extent the submucosa. The extent of colonic involvement is variable, but the rectum is uniformly involved.[14] Because of this, curative operations must remove all rectal mucosa.

Therapy

The initial therapy for ulcerative colitis is primarily medical and consists of steroids and sulfasalazine. Most patients with ulcerative colitis will eventually require an operation either for a complication of the disease or its treatment, or to prevent the development of colon cancer.

Proctocolectomy with ileostomy has been the standard operation but does not preserve fecal continence. There are three other options that preserve fecal continence and are preferred alternatives for a number of patients. These are: subtotal colectomy with ileorectostomy; proctocolectomy with continent ileostomy; and subtotal colectomy, rectal mucosectomy, and ileoanal anastamosis. There are advantages and disadvantages to each operation. Further, certain procedures are applicable only to certain subgroups of colitis patients.

Most patients with ulcerative colitis will eventually require an operation.

Miller of Montreal, in 1949, first advocated total proctocolectomy with ileostomy as the preferred treatment for ulcerative colitis.[6] Since that time it has become the benchmark against which all other operations for ulcerative colitis are measured. The operation consists of the complete removal of all the colon, including the rectum and anus, and the establishment of a cutaneous ileostomy. In ulcerative colitis it removes the disease in its entirety and further results in amelioration of extracolonic manifestations with the notable exceptions of sclerosing cholangitis and bile duct cancer. The operation can be performed electively with an operative mortality rate of less than 3% and when performed as an emergency procedure can be performed as safely as subtotal colectomy.[15]

Obviously, the operation is not without drawbacks. It results in a permanent ileostomy which requires the constant wearing of an ileostomy appliance. It can result in a variable degree of impotence in 5% to 20% of male patients.[16] In females the incidence of sexual dysfunction is about 5%. Difficulties in healing of the perineal wound and later development of small bowel obstruction are other problems associated with this operation.

Recently, Morowitz and Kirsner completed a questionnaire study of 1,803 patients with ileostomy for ulcerative colitis.[16] The results are summarized as follows: 73% of patients described their general health as greatly improved after colectomy and ileostomy, 13% were improved but not greatly, and less than 1% felt their health had significantly deteriorated. Ninety-four percent of the patients were employed. Approximately 20% of the patients had undergone at least one operation for ileostomy revision. Thus, while imposing a potentially significant physical and emotional burden on patients, life with an ileostomy is well tolerated by the vast majority of patients in whom it is necessary. How well patients adjusted to their ileostomy appeared to be in part related to the severity and length of their illness prior to operation. Those patients with more severe and longer periods of illness adjusted better.

Subtotal Colectomy with Ileorectostomy

Subtotal colectomy with ileorectostomy as an operation for ulcerative colitis has been popularized by Aylett of Great Britain, who published his preliminary investigations with this operation in 1953.[8] The operation consists of removing the colon from the terminal ileum to the peritoneal reflection and then performing ileorectostomy. The operation can be performed either as a one-stage or two-stage procedure. The primary advantages of this operation are that it obviates the need for a permanent ileostomy, preserves fecal continence, and avoids problems of sexual dysfunction by avoiding the need for a rectal dissection. The primary disadvantage of this operative approach is that it fails to remove all the diseased colon, thus allowing for continuation of the disease

process and leaving behind mucosa that remains at risk for the development of colonic carcinoma. It cannot be performed in the face of severe rectal inflammation and is an alternative to be considered in only about 10% of patients undergoing operative treatment of their ulcerative colitis. Hughes and his group from Melbourne recently reported a small series of 37 patients with greater than 15 years follow-up in all cases. Only 57% of their patients retained their rectum at 15 years. Further, one of their patients has died of rectal cancer.[17] Aylett's analysis of his 300 cases shows somewhat more favorable short-term results with only 5% of his patients acquiring rectal excision. Four of his patients developed rectal carcinoma.[18] In the Cleveland Clinic series of ileorectostomy, the cancer risk was 0% at 10 years, 5% at 20 years, and 13% at 25 years after operation.[19] Because of the significant residual cancer risk and poor long-term results, this operation is appropriate only for a minority of patients with ulcerative colitis.

Proctocolectomy with Continent Ileostomy

Nils Kock of Sweden devised an intestinal reservoir that would allow for filling without increased intraluminal pressure while working on the problem of replacement of an excised urinary bladder in 1962. He first used the intestinal reservoir in a patient with ulcerative colitis treated by proctocolectomy in 1967.[13] His initial reservoirs did not incorporate any valve mechanism and resulted in a 50% incidence of incontinence. A recent update of Kock's results was published in 1980, and now includes 280 patients.[20] His overall operative mortality rate was 2.5% with no deaths in his most recent 118 patients. Of 228 patients in whom the reservoir was combined with a nipple valve, 97% were continent. In his most recent 118 patients the incidence of nipple valve dysfunction requiring reoperation was 32%. Because of this continued high valve failure rate, technical changes are continuing to be made and the optimal technique is yet to be achieved. Patients must intubate their reservoir three to four times daily with a rubber or silastic tube to empty the reservoir.

The advantages of this procedure are that it allows for complete removal of the entire diseased colon, obviates the need for the constant wearing of an ileostomy appliance, provides good continence in the majority of patients, and is a safe operation in experienced hands. The disadvantages of the operation are: (1) it requires intubation of the reservoir; (2) many patients require reoperation for nipple valve dysfunction; and (3) it can result in complete bowel obstruction if valvular intussusception occurs, with the potential for reservoir rupture. It therefore requires that the patient be intelligent, well motivated, have ready access to emergency medical care, and be willing to accept a one in three chance of reoperation to maintain continence. Despite these drawbacks, it is an excellent procedure in selected patients.

Subtotal Colectomy, Rectal Mucosectomy, and Ileoanal Anastomosis

Subtotal colectomy, removal of the rectal mucosa, and anastomosis of the terminal ileum to the anus within the rectal muscular tube was performed in dogs and reported at the Society of Clinical Surgery in Baltimore by Sabiston and Ravitch of 1946.[9] Their results in animals were encouraging and prompted the subsequent use of this procedure in six human subjects with ulcerative colitis reported from Johns Hopkins by Ravitch in 1948.[10] The great advantage of this procedure is that it provides for removal of all the diseased colonic mucosa while maintaining the rectal muscular tube, levator ani muscles, and the anal sphincters, all of which are necessary for maintaining continence. Further, no permanent abdominal stomas are required. Early enthusiasm for this operative procedure waned as a result of incapacitating diarrhea even though the majority of patients remained continent. The operation was thus abandoned. With the introduction of the intestinal reservoir, interest in this technique was rekindled. Peck, in 1971, performed subtotal colectomy, rectal mucosectomy, and ileoanal anastomosis utilizing a side-to-side ileal reservoir. In 1980 he reported 17 cases in which this procedure has been performed for ulcerative colitis, with excellent or good results in 84%.[21] Eight percent of the patients required takedown and conversion to ileostomy and represent failures. Fonkalsrud utilizes an S-shaped pantaloon reservoir combined with ileoanal anastomosis.[22] Utsonomiya, of Japan, and Telander, of the Mayo Clinic, utilize a J-shaped side-to-side reservoir.[23,24]

Surgical alternatives do exist for patients with ulcerative colitis.

Early after takedown of the proximal, protective ileostomy, most patients experience a large number of liquid stools per day (eight to ten) but within four months are usually passing three to four soft stools per day with good continence. Noctural maintenance

of continence is a problem in some patients but also appears to improve with time. Because of the limited number of animal studies and the small number of patients in each clinical study, the optimal reservoir technique to combine with ileoanal anastomosis remains unknown. At the Health Sciences Center we are currently studying various reservoir techniques in an animal model and hope to be able to determine the optimal reservoir for use with ileoanal anastomosis.[25] The disadvantages of this procedure are: (1) it is a difficult, tedious, and time-consuming operation; (2) it requires a period of adaption before an acceptably small number of stools per day are achieved; and (3) occasional nocturnal incontinence, at least early on, can occur. As experience with this operation increases, it will have greater applicability, especially in the younger patient with ulcerative colitis.

Conclusion

In summary, surgical alternatives do exist for patients with ulcerative colitis. The selection of the proper surgical procedure depends upon many factors and should be made in consultation with the patient, the physician, and the surgeon. Newer surgical techniques offer hope as an alternative to total proctocolectomy and ileostomy.

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Turner Syndrome: Clinical Investigations and Review

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Individuals with mosaic karyotypes or structural abnormalities of the X chromosome may be X-chromatin positive, thus limiting the utility of buccal smears in detecting Turner syndrome.

In 1938, Henry Turner published his now classic description of gonadal dysgenesis,[1] commonly referred to as "Turner syndrome." Twenty-one years later, Ford and his associates[2] demonstrated that cells from these patients contained 45 chromosomes, with only one X chromosome. Subsequently, other chromosome constitutions have been observed. The common denominator, however, is monosomy for the short arm of the X chromosome. The incidence of Turner syndrome is estimated to be one per 3,000 to 5,000 liveborn females, according to various authors. In this paper we present our experience with 48 patients with Turner syndrome seen from 1974 through 1982. The characteristic phenotype and diagnostic chromosome studies for this disorder are reviewed, as well as the currently recommended therapeutic approach to the management of Turner syndrome.

Phenotype

Table 1 lists commonly occurring phenotypic findings seen in patients with Turner syndrome. The two major features, growth retardation and primary gonadal failure, will be discussed separately. Other abnormalities include strabismus, recurrent otitis media, eye/hand incoordination, renal anomalies, chronic lymphocytic thyroiditis, and carbohydrate intolerance. In addition, many other abnormalities, such as inflammatory bowel disease, hyperthyroidism, skeletal and joint anomalies, and diabetes insipidus have been reported in patients with Turner syndrome.

Forty-eight patients with Turner syndrome have been studied at Children's Medical Center between 1974 and 1982. Sixteen of these patients, ages 3 to 20 years, are currently being followed. Their characteristics are shown in Tables 2A and 2B. In 14 of our patients the diagnosis was suspected at birth because of physical characteristics such as short birth length, lymphedema, and/or redundant skin folds of the neck. The other two patients were diagnosed at 16 and 20 years of age after presenting with sexual in-

Table 1.—Common Stigmata Seen in Turner Syndrome

1. Short stature
2. Broad chest, widely spaced nipples
3. Lymphedema
4. Webbed neck, redundant skin of neck
5. Cubitus valgus
6. Prominent ears
7. Narrow, high arched palate
8. Micrognathia
9. Low posterior hairline
10. Increased number of pigmented nevi
11. Cardiac defects (ie, coarctation of the aorta)
12. Brachymetacarpia
13. Gonadal dysgenesis

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Table 2A. — Clinical Findings in 16 Patients with Turner Syndrome

Patient	Age at Diagnosis	CA*	BA†	Birth‡ Length	Strabismus	Brachymetacarpia Clinically	Brachymetacarpia X-Ray	Short Stature
1	Birth	8-9/12	5-0/12	19.0	+	–	–	+
2	Birth	9-5/12	8-10/12	17.5	–	–	–	+
3	20 Yr	20-0/12	13-0/12	17.0	–	–	–	+
4	Birth	5-4/12	4-2/12	19.5	–	–	+	–
5	5 Yr	10-2/12	8-10/12	20.0	–	–	–	+
6	13 Yr	13-9/12	11-0/12	21.5	–	–	–	+
7	Birth	6-10/12	3-0/12	17.5	–	–	–	+
8	Birth	9-8/12	8-10/12	19.0	+	+	+	+
9	3 Mo	—	—	18.0	+	+		+
10	16 Mo	5-5/12	5-10/12	20.0	+	–	–	+
11	16 Yr	16-9/12	13-6/12	19.5	–	–	–	+
12	9 Mo	9-7/12	5-9/12	18.0	–	+	–	+
13	Birth	10-1/12	9-0/12	18.0	–	–	–	+
14	Birth	7-10/12	6-10/12	18.0	–	+	+	+
15	Birth	8-2/12	7-10/12	17.0	+	+	+	+
16	Birth	9-7/12	5-9/12	19.0	+	+	–	+
				Total	16	16	15	16
				Present:	6(38%)	6(38%)	4(27%)	15(94%)
				Absent:	10(62%)	10(62%)	11(73%)	1(6%)

*Chronologic age in years
†Bone age in years
‡Inches

Table 2B. — Clinical Findings in 16 Patients with Turner Syndrome

Patient	Recurrent Otitis Media	PE Tubes	Coarctation of the Aorta	Kidney Anomalies	Thyroid Dysfunction	Misc
1	+	+	+	(*)	–	Congenital dislocated hip
2	+	+	+	–	–	Migraine headaches
3	–	–	–	(*)	–	–
4	+	+	–	–	–	45,X/46,XX
5	+	+	–	–	–	PAT
6	–	–	–	(*)	–	–
7	–	–	–	(*)	–	Seizures
8	+	+	–	+	–	–
9	+	+	+	(*)	–	–
10	+	+	–	(*)	–	46,X,i(Xq) Bicuspid aortic valve
11	–	–	–	–	–	–
12	+	+	–	–	–	–
13	+	+	–	–	–	–
14	+	+	–	–	–	–
15	+	+	–	(*)	–	–
16	+	+	+	–	–	–
Total	16	16	16	16	16	
Present:	12(75%)	12(75%)	4(25%)	1(6%)	0	
Absent:	4(25%)	4(25%)	12(75%)	8(50%)	16(100%)	
Unknown:	0	0	0	7(44%)	0	

*IVP not performed

fantilism and amenorrhea. Short stature occurred in all patients except patient number 4, who has a mosaic karyotype (45,X/46,XX). In seven patients for whom reliable growth data were available prior to treatment, mean growth velocity was 3.6 cm/year, which was significantly below the expected velocity for this age group. Using the method of Greulich and Pyle, all except one had a delayed bone age. The average delay in bone maturation was 2.5 years.

A number of patients manifest recurrent otitis media requiring pressure equalizing (PE) tubes as shown in Table 2B. Many have conductive hearing deficits, which may result in impaired speech and learning. Three have undergone tympanoplasty.

Other findings that occurred less frequently in our patients were strabismus, brachymetacarpia, and kidney abnormalities. None of the patients had thyroid dysfunction. The presence of brachymetacarpia (so called "positive metacarpal sign") can be helpful in recognizing Turner syndrome. However, the absence of clinical and/or radiographic evidence of brachymetacarpia should not obviate definitive diagnostic procedures, particularly if the patient's standing height is less than the third percentile.

The incidence of cardiac anomalies, especially coarctation of the aorta, is unusually high in this disorder as compared to the general population. Coarctation occurred in 25% of our cases. Recently a high frequency of bicuspid aortic valves in these patients has also been described.

Short Stature

Short stature is the most common characteristic and can be severe. The etiology of growth retardation is multifactorial, including intrauterine growth failure, subnormal growth velocity, and due to the associated gonadal dysgenesis, absence of a pubertal growth spurt. Other reported abnormalities such as hypothyroidism, poor nutrition, and chronic disease and/or growth hormone deficiency can also adversely affect linear growth. Untreated adults with 45,X karyotypes have an average standing height of 141cm to 143cm.[5,6] This is approximately the mean height for a girl 10 years 6 months of age. Mosaic Turner syndrome patients average 147 cm in height.

Numerous attempts have been made to improve growth.[7-11] Table 3 lists a few reported series from the literature. Most treatments result in short-term improvement. However, the question still remains whether overall adult height can be altered significantly by such therapy. Presently, it is common practice to initiate anabolic steroids (oxandrolone or fluoxymestranone) at approximately 10 to 13 years of age in an effort to enhance linear growth.

Ovarian Dysgenesis

Patients with a 45,X karyotype typically have bilateral streak ovaries and will require estrogen replacement therapy. Treatment with estrogen should be initiated at an age commensurate with the sexual development of age-related peers.

In patients with Turner syndrome, the results of psychological evaluations prior to adolescence are not significantly different from the results of psychological evaluations in the patients' peer group, except for somatic concerns regarding growth. After the age of 13 years, however, untreated patients appear to experience psychologic maturational lag with regression. By age 14 to 15 years, underdeveloped girls demonstrated marked anxiety, dependency, and other behavioral problems.[12]

Our current recommended therapy is to start at

Table 3. — Response to Treatment for Growth Retardation in Turner Syndrome

	N	Dose	Karyotype	Linear Growth Velocity (cm/year) Pre	1 yr	2 yr	3 yr	Reference
I. Oxandrolone								
	16	0.1 mg/kg/day	45,X	2.3 ± 0.3	5.9 ± 0.4*	5.2 ± 0.3*	4.6 ± 0.5*	10
	10	0.07-0.125 mg/kg/day	Mixed	2.7 ± 1.2	6.9 ± 1.9	4.7 ± 1.7	—	11
II. Estrogen								
	13	"Cycled"	45,X	—	8.0	2.7	1.8	10
	38†	"Cycled"	Mixed	2.55	2.88	1.03	—	17
III. Growth Hormone								
	5	0.08 U/kg/day	Mixed	1.08	2.28‡	—	—	18
	5	Variable (10-36 U/m^2)	Mixed	3.26	3.66	—	—	19

* Treatment period = 6 months
† Mean age at time of treatment = 17 years
‡ Treatment period = 4 months

age 12 to 13 years with estrogen (0.3 mg or less of conjugated estrogen or 5 mcg ethinyl estradiol) administered daily for 21 days each cycle. Thereafter, the dose of estrogen is gradually increased over a period of two to three years to 0.6 to 1.25 mg conjugated estrogen or 10 to 20 mcg of ethinyl estradiol daily for days 1 through 21 of each month. We continue treating the patient with the minimum dose necessary to maintain secondary sexual characteristics and withdrawal bleeding. Medroxyprogesterone acetate, 5 mg daily, is given on days 15 through 21 to ensure more physiologic menses and possibly to reduce the risk of endometrial carcinoma.[13]

We believe that prolonged unopposed estrogen therapy should be avoided. Studies of patients with gonadal dysgenesis treated with estrogen therapy alone have demonstrated endometrial hyperplasia with a potential risk of developing endometrial carcinoma.[14]

A yearly pelvic examination and pap smear with an intracervical specimen is suggested for all patients on estrogen replacement therapy.[15] Because abnormal vaginal bleeding (menorrhagia or menometrorrhagia) was the presenting symptom in all reported cases of adenocarcinoma of the endometrium, endometrial biopsy or dilatation and curettage is indicated under such circumstances.[16]

Table 4. — Results of Chromosomal Analysis in 48 Patients with Turner Syndrome Studied at Children's Medical Center

Karyotype	No. Patients	% Affected
45,X	25	52.0
Mosaics:		
45,X/46,XX; 45,X/47,XXX; 45,X/46,XX/47,XXX 45,X/46,XX/47,XYY	6	12.5
Structural abnormalities of X:		
46,X,i(Xq); 45, X/46,X,i(Xq) 45,X/46,X,r(X); 46,X,del(Xp); 45,X/46,X,del(Xp); 46,XX/46,X,del(Xp); 46,X,del(Xq)*	11	22.9
Translocation involving X:		
46,X,t(X;3)*; 46,X,(Xp;Xq)*; 45,X/46,X,t(Xp;Xp)	3	6.3
Cell line including Y chromosome		
45,X/46,XY; 45,X/47,XYY; 45,X/46,Xr(Y)	3	6.3
Total	48	

*Gonadal dysgenesis without Turner phenotype

Chromosome Studies

Following the initial clinical description of Turner syndrome, buccal smears from some affected females were shown to be X-chromatin negative. This diagnostic technique, commonly used in the past to help establish the diagnosis, has been replaced by chromo-

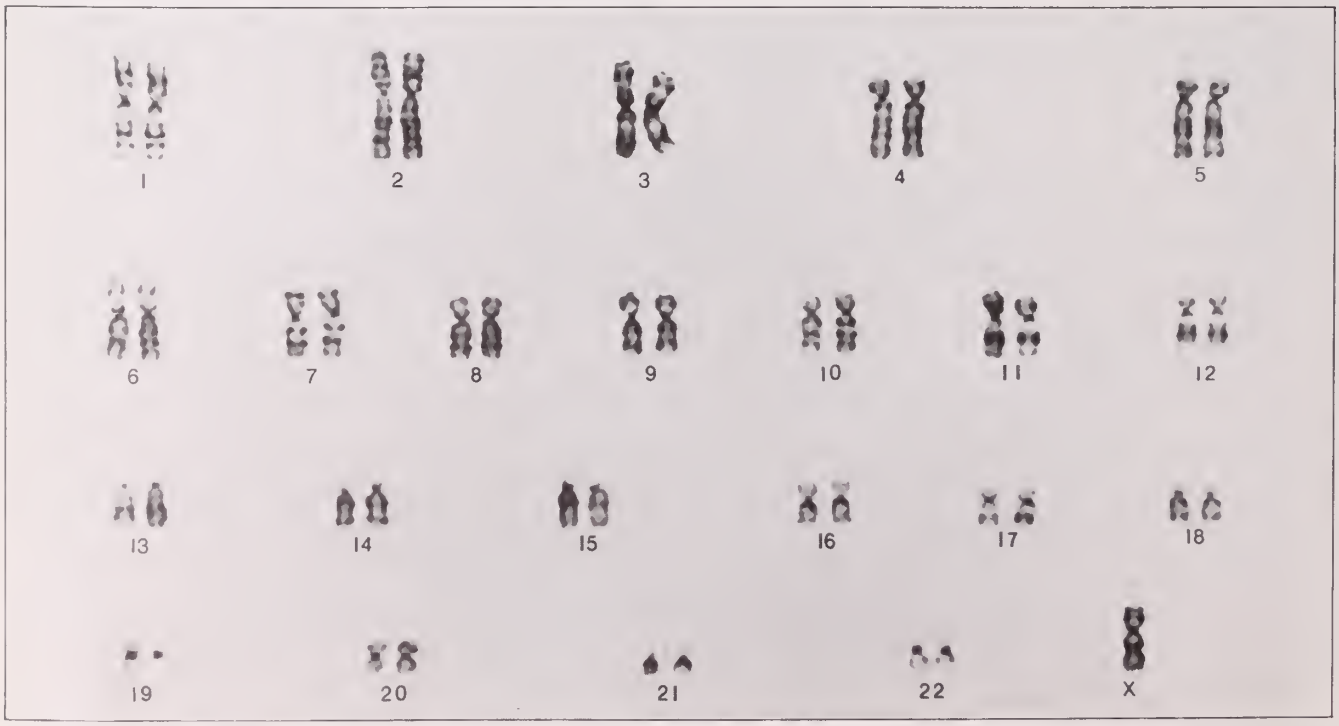


Fig 1. Karyotype of patient with Turner syndrome: 45,X.

some analysis. The karyotypes observed in our patients with Turner syndrome and/or gonadal dysgenesis are shown in Table 4. Of the 48 patients, only 52% have a 45,X karyotype (Fig 1), whereas 12.5% of the patients have mosaic karyotypes in which normal 46,XX cells and/or 47,XXX cells are found in addition to 45,X cells. Fewer phenotypic changes are seen in mosaic patients, and their buccal smears may be positive for X-chromatin. Structural abnormalities of the X chromosome were found in 22.9%, with the most frequently encountered being the isochromosome for the long arm of the X designated i (Xq). Several of the structural abnormalities are shown in Figure 2. Depending on the size of the structurally abnormal X chromosome, the buccal smears from these patients may also be X-chromatin positive.

Several possible genetic mechanisms may produce the 45,X karyotype, including meiotic nondisjunction. However, the high frequency of mosaicism in Turner syndrome, the lack of correlation between the frequency of the syndrome and increased maternal age, and the fact that the paternal sex chromosome is usually absent,[3] all point to an error in cell division in the early embryo as the origin of the abnormality.[4]

Chromosome analysis of peripheral lymphocytes should be performed on all patients suspected of having Turner syndrome. We feel that a buccal smear is not appropriate for screening because as many as 50% of cases may be X-chromatin positive. If mosaicism is demonstrated in the lymphocytes or is suspected on the basis of clinical findings, chromosome analysis of other tissues, such as skin, may help to determine the extent of mosaicism.



Fig 2. Structural abnormalities of X chromosome. In each pair, the abnormal X is at the right. (a) isochromosome for long arm of the X, i (Xq); (b) and (c) partial deletions of short arm of the X, del (Xp); (d) partial deletion of long arm of the X, del (Xq); (e) translocation between chromosome 3 and the X, t(3p;Xq); (f) and (g) translocations between X chromosomes, t(X;X) (p22;p11) and t(X;X) (p22;p22) or idic (X)(p22), respectively.

Current Investigation

Many facets of Turner syndrome are currently under active investigation by the Pediatric Endocrine Sections at Children's Medical Center and the University of Oklahoma Health Sciences Center.

A reevaluation of the effects of growth hormone and estrogen replacement on linear growth and maturation are under way, with particular emphasis on the age at which treatment is initiated. Because short stature can often result in psychological maladaptation during adolescence, personality characteristics and development are being monitored. Despite the presence of phenotypic abnormalities and short stature, patients with Turner syndrome as a group appear to be well adjusted as adults.

Finally, we are studying the carbohydrate metabolism in our patients since previous reports have suggested that the incidence of carbohydrate intolerance is increased in Turner syndrome, although its exact prevalence and physiologic importance is unknown.

Conclusions

1. Patients with Turner syndrome should be identified as early as possible to allow:
   A. Proper counseling of the parents.
   B. Timely surveillance and treatment of commonly associated abnormalities.
   C. Rapport to develop between the physician and the child and her family — a valuable asset during subsequent discussions of sexual development and infertility.
2. Every effort should be made to maximize linear growth while simultaneously preparing the child psychologically for short stature.
3. Replacement therapy with sex steroids should be aimed at keeping the child commensurate with her peer group.

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Coming in March . . .

Papers scheduled for publication in the March issue of the JOURNAL include reports on the orthopaedic management of rheumatoid disease of the upper limb, the role of the teaching nursing home in residency education, and the results of an epidemiologic study of prostate cancer in Oklahoma. Also tentatively scheduled is the next Leaders in Medicine article.

scientific OSMA JOURNAL

Results of a Nutrition Information Study Among Family Practitioners in Oklahoma County

Renee Ann Tinker, MD

Although Oklahoma County family practitioners believe nutrition information is an integral part of total health care and endeavor to dispense accurate information, patients infrequently ask their advice on issues relating to nutrition.

A study previously published in the OSMA Journal[1] surveyed a demographically representative sample of the general public to analyze its level of nutritional knowledge. The data revealed that Oklahomans possess inadequate nutritional knowledge and may have numerous misconceptions about what is necessary for the maintenance of good health. Among the study's findings, one was of particular interest and importance: Physicians were infrequently cited by the study's participants as a source of nutritional information. In fact, among the seven sources listed, physicians ranked fifth in frequency of usage.

In an attempt to clarify this finding, the author devised a five statement questionnaire (Fig 1). Its purpose is threefold: (1) to assess physicians' attitudes about the importance of nutrition in the total health care of patients; (2) to quantify the frequency with which patients are seeking physicians' advice on issues related to nutrition and to ascertain how physicians are answering these questions; and (3) to assess practicing physicians' impressions on the adequacy of their medical school instruction on matters related to nutrition. The survey was mailed to the 127 family practitioners in Oklahoma County on a return-postage-guaranteed, 4x6 postcard. This study was sponsored by the University of Oklahoma Health Sciences Center, Division of Community Medicine under the direction of Wilson D. Steen PhD. This paper is a report of the findings of this survey.

Analysis

Of the 127 questionnaires sent to Oklahoma County family practitioners, 83 were completed and returned, yielding a response rate of 65%. This suggests that a high level of interest about nutrition and its relationship to patient care exists among this physician population.

Table 1 provides a comparison, with respect to age and sex, between the total family physician population in Oklahoma County and the responding physician population. Examination of these figures confirms that the study population is a valid representation of the total family physician population in Oklahoma County. For example, in the total population, 31.5% are in the age group 50-59 years; among all respondents, 31.3% are in the same category. In the total Oklahoma County population (127), 91% of physicians are male, 9% are female. Among male physicians, 66% (77/116) returned the survey, while among female physicians, 54% (6/11) did so. Though the number of female physicians, when compared to male, is small, it nonetheless represents a majority of the female family physician population in Oklahoma County and is, therefore, construed as a valid

and representative sampling of opinion in this study. Based on these statistics, male family physicians were more responsive to this nutritional information survey than were female.

When each of the five statements was analyzed according to selected demographic variables (ie, age, sex, and year of graduation from medical school), definite and interesting trends were noted (Table 2).

Statement 1: Nutrition information is an integral component of total health care delivery to patients. Overall, 99% of respondents felt positively about this statement. Though a smaller percentage of female physicians (54% vs 66% of male physicians) returned the survey, a significantly larger proportion of them (83% vs 47% of male physicians strongly agreed with this statement. This suggests that though interest in nutrition among both groups of physicians is high, as shown by a majority response in both groups, female physicians may feel that nutrition information is more important in total patient care.

PHYSICIAN NUTRITION INFORMATION SURVEY

(Please Circle Your Answer)

1. Nutrition information is an integral component of total health care delivery to patients.

Strongly Agree | Agree | No Opinion | Disagree | Strongly Disagree

2. What percentage of your patients ask your advice on issues relating to nutrition (i.e., diet, weight control, vitamin supplementation, "healthfoods," etc?)

0% 25% 50% 75% >75%

3. Which of the following resources do you provide patients who have questions relating to nutrition?

Answer the Question | Distribute Brochures | Referral To Dietitian | Other_____

4. When answering your patients' queries about nutrition, to what degree do you feel that your **formal** medical training prepared you for this facet of your practice?

0% 25% 50% 75% >75%

5. More nutrition related courses are needed in the medical school curriculum.

Strongly Agree | Agree | No Opinion | Disagree | Strongly Disagree

Table 1. Comparison of Oklahoma County Family Practitioner Population with Nutrition Survey Population and % of Physicians Responding by Age and Sex

		Family Practitioners Population N = 127	Nutrition Survey Population N=83	% Physicians Responding
Age Groups in Years	30-39	25.2%	28.9%	75.0%
	40-49	16.5	14.5	57.1
	50-59	31.5	31.3	65.0
	60-69	20.5	18.1	57.7
	70-79	6.3	7.2	75.0
Sex	Male	91.3	92.8	66.4
	Female	8.7	7.2	54.4
Total		100.0	100.0	65.4

Statement 2: What percentage of your patients ask your advice on issues relating to nutrition (ie, diet, weight control, vitamin supplementation, "health foods," etc)? Among all physicians, greater than half felt that 25% or less of their patients sought their advice, while less than one-third felt that between 25% and 50% did the same, leaving only 1 in 6 physicians who are approached by at least 75% of their patients with questions related to nutrition. These data tend to correlate with the author's previous study, where only 1 in 10 persons surveyed cited physicians as a source of nutrition information. When sex comparisons are made, significantly larger proportion of male (56%) than female (17%) physicians are noted to feel that 25% or less of their patients depend on their advice. Similarly, fewer male (14%) than female (33%) physicians state that at least 75% of patients ask for nutritional advice. This implies that, in comparison, female physicians feel that more patients approach them about matters related to nutrition than do male physicians.

Statement 3: Which of the following resources do you provide patients who have questions relating to nutrition? An analysis of the total survey population suggests that family physicians are making concerted efforts to answer their patients' questions with accurate information from reliable sources. Male and female physicians alike answer the vast majority of their patients' questions directly (96% and 100%, respectively). Nearly half of the male and two-thirds of the female physicians distribute literature on nutrition. Half of physicians, in both sexes, make referrals to dietitians. When analyzed by age, the youngest physicians (30-39 years) consistently make the most resources available to their patients.

Statement 4: When answering your patients' queries about nutrition, to what degree to you feel that your formal medical training prepared you for this facet of your practice? The majority of physicians in this survey feel inadequately prepared most of the time for this aspect of private practice, with older physicians feeling better prepared than younger. Among female physicians, 75% felt their formal medical training failed entirely (0%) to

Table 2.—Summary of Responses to Physician Nutrition Information Survey Statements by Demographic Groups

		Statement 1*			Statement 2			Statement 3				Statement 4			Statement 5			
		Agree	Strongly Agree	No Opinion	≤25%	50%	≥75%	A	B	C	D	0%	≤5%	≥50%	Agree	Strongly Agree	No Opinion	Disagree
Sex	Male n=77	52%	47%	1%	56%	30%	14%	96%	48%	56%	14%	14%	62%	24%	62%	23%	14%	1%
	Female n=6	17	83	0	17	50	33	100	66	50	17	66	17	17	50	33	17	0
Age Groups in Years	30-39 n=24	42	58	0	50	29	21	100	67	71	33	33	54	13	67	25	8	0
	40-49 n=12	58	42	0	50	17	33	100	33	42	17	17	75	8	50	33	17	0
	50-59 n=26	58	42	0	48	44	12	92	46	54	8	15	54	31	42	35	23	0
	60-69 n=15	53	47	0	73	20	7	93	33	40	0	7	60	33	73	13	7	7
	70-79 n=6	17	66	17	50	33	17	100	66	17	0	0	67	33	83	0	17	0
Decade of Grad from Med School	'70-'79 n=28	39	61	0	46	29	25	100	64	64	29	36	54	10	68	21	11	0
	'60-'69 n=19	58	42	0	42	42	16	89	42	37	16	16	68	16	47	32	21	0
	'50-'59 n=25	60	40	0	68	28	4	96	40	64	4	4	60	36	60	24	16	0
	'40-'49 n=7	43	57	0	57	29	14	100	43	14	0	14	57	29	57	29	0	14
	'30-'39 n=4	25	50	25	50	25	25	100	50	25	0	0	50	50	75	0	25	0
	Total n=83																	
Total Population		49%	50%	1%	53%	31%	16%	96%	49%	52%	14%	18%	59%	23%	60%	24%	15%	1%

* Statements 1 through 5 correspond to Statements 1 through 5, enumerated in the figure. In statements 1 and 5, those responses never selected by a physician (eg, strongly disagree) are excluded from the table. In statements 2 and 4, certain responses were combined for tabulating purposes; these are indicated by the headings (eg, ≤ 25%).

† Each letter (A-D) corresponds to one of the choices listed with Statements 3 in the figure. ie, A - answers the question; B - distributes brochures; C - referral to dietitian; D - Other

‡ Numerical values represent the percentage of physicians choosing a given response.

prepare them to answer patients' queries about nutrition; however, only 15% of male physicians felt the same. Almost one-quarter of male physicians claim that their medical training prepared them at least 50% of the time, whereas none of the female physicians acknowledged this extent of preparedness. Proportionately more graduates from the 1960s and 1970s (16% and 36%, respectively) felt that zero percent of their medical training prepared them to answer patients' nutrition questions when compared to 1930s, 1940s, and 1950s graduates (4%, 14%, 0%, respectively). Likewise, a much larger percentage of graduates from the 1930s through 1950s (50%, 29%, and 36%) feel prepared at least 50% of the time when compared to graduates from the 60s and 70s (16% and 10%, respectively).

Statement 5: More nutrition related courses are needed in the medical school curriculum. Eighty-four percent of responding family practitioners in this survey felt positively about this statement, with 60% agreeing and 24% in strong agreement. However, 15% had no opinion and 1% disagreed. These statistics showed no significant variations when analyzed by sex, age, and year of graduation.

Conclusions

The results of this nutrition information survey among Oklahoma County family practitioners led the author to draw the following conclusions: (1) Family physicians feel that nutrition is an important facet in the delivery of complete health care to patients. (2) As purveyors of nutritional information, family practitioners largely remain a potential resource, one presently not exploited by patients. The data in this study support this author's initial findings in a sample of the general public where only 1 in 10 participants cited his physician as a nutrition information source. (3) Despite the fact that relatively few patients seem to be addressing their questions about nutrition to their doctors, family physicians in general are making positive efforts to adequately answer these queries when they are made. (4) The majority of physicians surveyed feel that the instruction received during formal medical training on nutrition inadequately prepared them to answer most patients' questions about the same in private practice. Whether this inadequacy is related solely to insufficient exposure to nutrition topics is uncertain. Although 84% of physicians surveyed agreed that more nutrition-related courses are needed, only 24% strongly agreed, and 15% had no opinion. Inefficient instruction and/or coverage of inappropriate topics may also be partially responsible for the lack of physician readiness in this area of practice.

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OSMA JOURNAL *scientific*

Nutrition for the Practitioner VI
Current Concepts in Nutrition: Vitamin K

Stephen R. Newmark, MD

Structure

Vitamin K activities are found in a group of compounds which includes the naphthoquinones.[1] Vitamin K_1 (phylloquinone) is the primary form in vegetable matter while vitamin K^2 (menaquinon-7) is derived from bacterial metabolism.

Dietary Source

Vitamin K is derived from green leafy vegetables, beef liver, and foods in which bacterial putrefaction has occurred. Vitamin K also is produced by endogenous gastrointestinal bacteria, and it is estimated that at least 50% of vitamin K absorption is derived from this source.[2]

Function

Vitamin K is a co-factor in the hepatic synthesis of clotting factors 2, 7, 9, and 10.

Vitamin K participates in the post-translational carboxylation of glutamic acid residues in the clotting factors, and this biochemical modification is necessary for these proteins to bind calcium to activate clotting activity.[3] Other plasma proteins have been identified as having γ-carboxylated glutamic acid residues, although their biological functions have not been clarified. Osteocalcin, a protein with γ carboxylated glutamic acid residues, has been isolated in the bone matrix and apparently participates in the mineralization process.[4]

Absorption and Metabolism

Vitamin K is fat soluble and requires bile salts for its absorption in the proximal jejunum. The liver metabolizes vitamin K to more polar metabolites, and it is excreted both in the bile and the urine.

Requirements

Vitamin K requirements are small. An average diet contains 300 μg to 500μg of vitamin K of which 10% to 70% is absorbed. A similar amount is provided by gut flora. Although recommended daily allowances are not available, it has been suggested that adults ingest 1 μg/kg of vitamin K.[5]

Newborn infants previously received 0.5 mg to 1.0 mg vitamin K intramuscularly or 1.0 mg to 2.0 mg orally to protect them from hemorrhagic disease; however, the association of neonatal hyperbilirubinemia has discouraged routine use of this drug in large doses (see below). The Nutrition Advisory Group has suggested that .020 mg/kg of vitamin K_1 up tp 0.2 mg/day or 0.2 mg to 1.5 mg weekly is safe in infancy and childhood.[6]

Vitamin K Deficiency States

Deficiency states presenting as clinical bleeding usually occur in conjunction with malabsorption syndromes or in cases of severe hepatic disease. Occasionally, treatment with broad-spectrum antibiotics combined with poor dietary intake will induce vitamin K deficiency.[6]

Usually vitamin K deficiency is diagnosed by a prolongation of the prothrombin time and treatment is regulated by the response of the prothrombin time to the administration of vitamin K.

Toxicity to vitamin K has been observed in infancy where large doses of vitamin K (10 mg) were

associated with hyperbilirubinemia and kernicterus.[6] Vitamin K has been reported to cause hemolysis in G-6-PD–deficient patients as well as hemolytic anemia in newborn infants. Toxicity states in adults are unknown.

Interaction with Medications

Vitamin K activity is antagonized by coumarins (half-life of 24 hours) and warfarin (half-life of 40 hours), which are frequently used for therapeutic anticoagulation. Overdosage with these medications producing clinically significant bleeding can be reversed by the administration of vitamin K or the infusion of plasma or prothrombin complex concentrate.[7]

Binding resins such as cholestyramine may impair vitamin K absorption, or antibiotics may impair bacterial synthesis of vitamin K by suppression of bacterial growth.

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News from the Oklahoma State Department of Health

Smokeless Tobacco

Recent resolutions by both the American Medical Association and the American Dental Association have pointed out the hazards of "smokeless tobacco" (snuff and chewing tobacco) and have called for health hazard warning labels to be put on these products.

In April of 1984, the Oklahoma Health Systems Agency, in cooperation with the Oklahoma State Department of Education and Oklahoma State University, undertook a statewide survey of Oklahoma public school children in grades 3, 5, 7, 9, and 11 to document the utilization of smokeless tobacco in that population. Two thousand ninety-eight children were selected at random to complete the multiple question survey instrument. Among the respondents, the reported incidence of "dipping or chewing" ranged from 7% at the third grade level to 22% in the eleventh grade level students.

There appears to be an increase in the consumption of smokeless tobacco and some boys and girls are starting to dip and chew as early as kindergarten. School children apparently find snuff and chewing tobacco to be more popular than cigarettes among their peer groups, but information about the potential hazards associated with smokeless tobacco has been added to the Oklahoma State Department of Health dental education program, and dental educators are stressing the hazards of this habit in school programs this year. We are also encouraging physicians and dentists to do everything possible to discourage the use of smokeless tobacco, and to teach patients to do self-examinations for oral cancer.

The Oklahoma State Department of Health has a new publication, *A Self-Examination Guide for Early Oral Cancer Detection*. We believe that this pamphlet with its step-by-step instructions will be useful in helping to promote examinations for oral cancer. Copies of the pamphlet can be obtained from the Film and Publications Center, Oklahoma State Department of Health, PO Box 53551, Oklahoma City, OK 73152, telephone (405) 271-5188. □

DISEASE	November 1984	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	1	7	12	20
CAMPYLOBACTER INFECTIONS	14	186	199	—
ENCEPHALITIS, INFECTIOUS	0	19	34	26
GIARDIA INFECTIONS	30	244	250	—
GONORRHEA (Use ODH Form 228)	1006	12068	14095	16519
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	15	176	146	—
HEPATITIS A	43	422	743	447
HEPATITIS B	14	164	300	234
HEPATITIS, NON-A NON-B	8	47	48	—
HEPATITIS UNSPECIFIED	6	88	189	193
MEASLES (RUBEOLA)	0	8	1	143
MENINGITIS, ASEPTIC	6	113	347	168
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	1	41	63	47
MENINGOCOCCAL INFECTIONS	0	26	34	28
PERTUSSIS	0	240	325	105
RABIES (Animal)	4	99	105	219
ROCKY MOUNTAIN SPOTTED FEVER	0	114	216	105
RUBELLA	0	0	0	2
SALMONELLA INFECTIONS	24	362	561	410
SHIGELLA INFECTIONS	17	195	223	273
SYPHILIS (Use ODH Form 228)	15	182	203	153
TETANUS	0	2	0	0
TUBERCULOSIS	17	198	227	288
TULAREMIA	0	19	30	24
TYPHOID FEVER	1	4	3	0

Diseases of Low Frequency	Total to Date This Year
ACQUIRED IMMUNE DEFICIENCY SYNDROME	9
BRUCELLOSIS	5
LEGIONNAIRES DISEASE	19
MALARIA	9
REYE SYNDROME	14
TOXIC SHOCK SYNDROME	16
RABIES	
CHOCTAW	SKUNK 1
CRAIG	SKUNK 1
DELAWARE	SKUNK 1
WASHITA	SKUNK 1



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Medicine takes giant steps in a year filled with firsts

A year of dramatic advances in medicine was dominated by two heart procedures in the fall, according to James H. Sammons, MD, executive vice president of the American Medical Association (AMA). The first was the xenograft of a baboon heart in a newborn infant named Baby Fae, and the second was the implantation of an artificial heart, the second in the history of medicine, in a man named William Schroeder.

Other major advances included isolation of the possible causal agent of acquired immune deficiency syndrome, a definitive National Institutes of Health (NIH) study proving that lowered blood cholesterol decreases heart-attack risk, the announcement of births of two babies carried to term after a surrogate ovum transfer, and the successful allografting of skin from tissue culture to two boys who had suffered severe burns.

In reviewing the past year, Sammons also emphasized the critical importance of the following, less dramatic advances in medical knowledge:

Percutaneous transluminal coronary angioplasty has become suitable and effective for some heart patients. About 50% of the patients undergoing coronary angiography are candidates for coronary artery bypass surgery, and about 10% of these are candidates for angioplasty. Angioplasty success rates, measured by improved exercise tolerance, average 80% to 85%.

Long associated with emotional stress and diet, gastric and duodenal ulcers now appear to be most affected by cigarette smoking. Decreasing the number of cigarettes smoked per day seems to aid the healing process dramatically. By contrast, continued smoking slows healing and doubles the frequency of relapse within one year for duodenal ulcer patients.

New information about aging underscores a striking and not fully explained feature of the demography of old age: the preponderance of women. In the US in 1900, men more than 65 years old numbered about the same as women over 65. Now the ratio is seven men for every ten women. Diminished risk of death in childbirth and greater occupational risks for men apparently do not entirely explain the changing ratio. Furthermore, fatality rates from diseases seem to be higher for men than women at any age.

(continued)

Sufficient residency slots available, AMA study finds

There were 1.3 first-year residency positions available for each graduate from a United States medical school in 1983, states a report in the *Journal of the American Medical Association (JAMA,* Dec 28)

"According to AMA data, 15,527 (99%) of US senior medical students accepted a residency position in 1983," says Anne E. Crowley, PhD, director of the AMA's Office of Educational Directories. In addition, some 1,770 foreign medical school graduates (FMGs) who are US citizens gained positions.

Crowley explains that a special AMA survey was conducted to determine whether first-year positions were decreasing, as rumored. Results showed (1) the number of positions varied, depending on the date of count; (2) position availability could be influenced by the quality of candidates who apply; and (3) the number of positions for each US medical school graduate was 1.2 in 1981, and 1.3 in both 1982 and 1983.

"The number of US entering medical students is increasing at a much slower rate than it has in the past," Crowley says. "Consequently, the number of US medical graduates, who form the largest group of persons appointed to US residency programs, has not increased appreciably in the past few years, and may actually start to decrease in the near future." □

DNR orders posing questions about ethics and decisions

"Do not resuscitate" (DNR) orders generally are carried out when requested, but they often are not accompanied by any written justification, according to a report in the *Journal of the American Medical Association (JAMA*, Jan 4).

Stuart J. Youngner, MD, of University Hospitals of Cleveland and Case Western Reserve University School of Medicine, and colleagues studied DNR decisions in an intensive care unit (ICU) in a 1,000-bed hospital. Seventy-one (14%) of 506 patients were designated DNR, and 9 survived hospitalization. For 30 patients there were no written justifications for the DNR decision, the researchers say. Justifications given for the other 41 patients included poor prognosis (59%), poor quality of life (24%), and patients' wishes (15%). The researchers add that the intent or philosophy of the overall treatment plan was rarely explained.

The study demonstrated that age, severity of illness, and prior health were predictive of DNR orders, and that race and socioeconomic factors were not. Medical interventions started before DNR designation were continued in at least 76% of patients. Not one of the DNR orders was rescinded.

"Although willingness to write DNR orders in a medical intensive care unit and continued active treatment of DNR patients are both reassuring in a general sense, they raise questions about the consistency of treatment plans and goals for individual patients," the researchers conclude.

Commenting editorially, Robert M. Veatch, PhD, of the Kennedy Institute of Ethics at Georgetown University, says the study is reassuring to some extent because the DNR orders were carried out and were not influenced by race or socioeconomic-characteristics. He also points out that the AMA's Judicial Council, the President's commission on ethical problems in medicine, and the general public have all expressed support for the option of DNR orders.

Veatch then outlines three concerns raised by the study. The first is the uncertainty about which of several life-sustaining interventions should be continued in the care of a DNR patient. Written orders to withhold cardiopulmonary resuscitation (CPR) appeared in the records of 64 of the 71 patients studied (90%), yet explicit directives regarding other aggressive treatments appeared in records of only 46% of the group. All of the patients continued to receive high levels of medical treatment and resources.

The second concern, says Veatch, is that only 39% of the DNR patients were considered terminal, or having a less than 10% chance of survival. This, he points out, demonstrates the need for careful evaluation of other reasons for DNR orders.

Finally, Veatch notes that the wishes of the patient were listed as a justification for not resuscitating in only 15% of the cases. He stresses that these decisions should be made by the patient or patient's surrogate with the physician. "Patients have for some years been horrified at the thought of being trapped in terminal illness treatment without their approval. It is even worse to leave them contemplating having a nonresuscitation decision made for them without their approval." □

Giant steps (continued)

Early investigations offer the promise of a new understanding of cystic fibrosis. These studies show that cystic fibrosis patients have higher concentrations of sodium, chloride, and potassium ions, and researchers now postulate that a reduction in chloride reabsorption among such patients may offer the major explanation for the clinical manifestations of the disease. The findings could result in new treatment for this devastating disorder.

Respiratory distress syndrome (RDS) is no longer the life-threatening risk to low-weight newborn infants that it once was, but the syndrome has reemerged as a problem. With the survival of ever tinier infants, RDS now poses risks of residual lung damage. The syndrome can be countered by surface active material (SAM) used preventively. New work is under way to produce a synthetic SAM, and clinical trials are expected within the next two years.

Recombinant DNA technology can be used for more than just the production of new therapeutic compounds. Pathologists have been using the technology to enhance the understanding of human disease, and they now recognize that at least 30 different types of cancer are associated with consistent chromosomal abnormalities. Some types occur with translocations of chromosomes; others are associated with deletions of specific bands of chromosomes. In either case, chromosomal rearrangement has been clearly related to the beginning of tumors.

Nuclear medicine investigations offer hope for a new radioactive method of destroying cancer cells. Instead of using radiotherapy, researchers are using monoclonal antibodies tagged with a radioactive substance. The antibodies travel to tumor cells and effectively irradiate them with less damage to overlying tissue than is associated with conventional radiation therapy. □

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ACP warns MDs about their role in drug abuse problems

Chemical dependence needs greater recognition as a medical illness that can be treated, states the American College of Physicians (ACP) in a recent position paper. Developed by the college's Department of Health and Public Policy, the statement addresses the role of the physician in recognizing, treating, and preventing the illness.

Physicians often are called upon to treat people suffering the effects of drug dependence, says John R. Ball, MD, JD, ACP executive vice president for health and public policy. "It thus is imperative that they know the symptoms and behavior associated with excessive drug use," he continues. "Physicians must be able to recognize and treat the problem and to give appropriate counsel about the correct use of drugs."

The ACP recognizes that physicians can — intentionally or otherwise — be a party to chemical dependence by prescribing medications in such a way that a patient becomes dependent on them. The college warns that physicians have a responsibility to keep their prescribing practices consistent with the best interests of their patients. "Poorly informed and careless physicians need to be better educated," the college says, and "physicians who are convicted of abusing their right to prescribe drugs and of pandering to the illicit market should have their licenses to practice medicine revoked and should be punished to the fullest extent of the law."

The ACP recommends that, in addition to being well informed themselves, physicians take a part in patient and public education, "the hallmark of all disease prevention efforts." In particular, the college stresses the physician's responsibility to teach patients about the proper use of licit drugs and the hazards of illicit drugs, as well as the need for medicine to participate in public education programs that emphasize the vital importance of following instructions when taking prescribed and over-the-counter medications.

"Chemical dependence has become a serious health problem in this country," says Ball. "It is costly for patients' families and friends — who must pay medical bills and bear the social brunt of the illness — and it affects innocent victims as well."

The college's statement notes, for example, that alcohol is responsible for more deaths among people age 15 to 45 than any other single agent: the drug is involved in at least half of all automobile fatalities, 67% of drownings, 70% to 80% of deaths in fires, 67% of murders, 35% of suicides, and 85% of 11,000 annual liver disease deaths. □

CALL FOR RESOLUTIONS

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting will be held May 1-4, 1985, at the Sheraton Century Center and Skirvin Plaza hotels in Oklahoma City.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 NW Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

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Although there has been considerable appreciation of property value in the past, we feel a purchase of vacation property in this area should be made for utility reasons rather than as an investment only. World class ski areas like Vail and Beaver Creek, delightfully cool summers, golf, and constant summer activities are among the reasons to have a home in Vail. Whether you use it for yourselves and your friends only, or rent to others, a purchase could not be made at a better time than the present.

For further information, write to Mary Ellen or Gerry Turner, Box 1242, Vail, CO 81658 or call (303) 949-4077.

* The IRS would probably treat a purchase by your professional corporation as a purchase by you. Check with your accountant.

Doctors turn thumbs up on formal teaching of ethics

A majority of physicians who had courses in medical ethics during their training believe that the ethics study was "very successful" or "somewhat successful" in increasing their abilities to work with patients and colleagues.

Writing in the *Journal of the American Medical Association (JAMA*, Jan 4), Edmund D. Pellegrino, MD, of Georgetown University, and colleagues from several areas report on responses of 1,023 physicians who graduated from medical school between 1974 and 1978 and participated in a survey on medical ethics. While 126 of 127 medical schools now offer ethics courses, only about half or fewer of the schools did so in the mid-seventies.

Of the 1,023 physicians responding to the survey, 314 reported having some formal training in medical ethics. A majority of them classified training as very or somewhat successful in enabling them to identify value conflicts (81.9%), in increasing their sensitivity to patients' needs (78.7%), in helping them to understand their own values better (76.1%), or in dealing more openly with moral dilemmas with patients and fellow professionals (73.3%).

The researchers note their survey had some limitations, but they think some conclusions are warranted. For one thing, the respondents perceived ethical dilemmas and decisions to be frequent. They perceived the need for specific knowledge and skills for dealing with such decisions. On 22 of 36 important issues in daily practice, those who had training in ethics apparently believed they were better prepared to confront ethical issues than were their peers without such training. □

Most smokers kick the habit in solo, not group, efforts

Surveys show that more than 90% of the 50 million Americans who want to quit smoking prefer to kick the habit on their own, without joining an organized smoking-cessation group. However, going it alone doesn't have to mean going without expert advice.

Here are five tips for do-it-yourself quitters from the new report *Smoking Cessation Techniques: Searching for a Way Out*, published by the American Council on Science and Health (ACSH), an independent nonprofit scientific organization:

1. Quitting "cold turkey" is usually *easier* than cutting down on smoking gradually. The symptoms of nicotine withdrawal subside more quickly if you

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Smokers kick the habit (continued)

give up cigarettes all at once, according to recent scientific studies.

2. Those commercial quit-smoking filters that you attach to a cigarette to reduce the amount of tar and nicotine in the smoke *don't* make quitting easier, and they may even make it more difficult. In one research study, people who used these filters actually *increased* the number of cigarettes that they smoked.

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3. The new nicotine chewing gum *does* help, if it is used in conjunction with a good counseling program. It's available by prescription only, so if you're interested in this option, see your doctor.

4. *Motivation* is the key factor that distinguishes successful quitters from those who don't succeed. Look at your reasons for wanting to stop smoking. If you're doing it because you have a strong personal desire to quit, your chances of success are excellent. If you're doing it only to please your friends or family, you're not likely to kick the habit permanently. Studies show that most successful quitters make firm personal commitments to stop.

5. You don't *automatically* gain weight when you quit smoking. In fact, research shows that the majority of quitters gain very little weight or even lose weight after they quit. Some do gain weight, though, because they snack more than usual in an effort to nurse nicotine withdrawal symptoms, or because they feel a need to put something in the mouth frequently in place of a cigarette. Increased exercise, low-calorie snacks, and a well-balanced diet will usually counteract this problem. □

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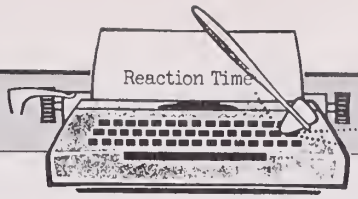
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Reader disputes MRJ's "consensus"

To My Colleagues in the OSMA — I have been a member of the OSMA for 38 years. I was very disturbed by the editorial entitled "Sad Consensus" by MRJ, 11/84.

If doom and gloom is really as pervasive as my esteemed classmate suggests, then we need to examine our values.

If we allow any consideration — other than healing the human body and concern for the person within that body — to dominate our lives, then we deserve the threat of bureaucratic control. When we love the fee more than the patient, we become the natural arena for predatory malpractice lawyers and those who would make technicians of us instead of physicians. Despite fantastic progress in medicine and surgery, Osler's observation that doctors cure more patients than medicine is still true.

To all young people who like to work, are curious about humanity and diseases and want a good, busy life with maximum challenge to your brain, I hope you will consider medicine. It is a great profession.

B. R. Westbrook, MD
Bartlesville

Family physicians launch new drug information program

The American Academy of Family Physicians (AAFP) has announced an updated consumer prescription drug information program based on *USP DI*. The new program, called Drug Use Education Tips (DUET), is designed to aid AAFP members in educating their patients about prescription medications.

The new DUET consists of sets of 290 monograph abstractions from *USP DI* Volume II, *Advice for the Patient*. The lay-language monographs are printed in looseleaf form, three-hole punched, and suitable for photocopying for distribution to patients. In addition to the patient information sheets, the DUET system includes suggestions for using the materials in the family physician's office and a poster urging patients to "Ask About Your Medicines."

Since 1982, when it introduced the original DUET program, the AAFP has been involved in a nationwide prescription drug information effort for patients. Responding to suggestions from members, the AAFP revised and expanded DUET to better help family physicians teach their patients about prescription medications.

"Family physicians have a responsibility to educate their patients about prescription medications," says Dr Robert W. Higgins, AAFP president. "I encourage all family physicians to use the DUET system."

For more information on the new DUET system, contact AAFP's Washington Office, 600 Maryland Ave, SW, Suite 770, Washington, DC 20024, or telephone (202) 488-7448. □

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Deaths

SETH D. REVERE, MD
1909 - 1984

OSMA Life Member Seth D. Revere, MD, of Chickasha died October 6, 1984. Dr Revere was graduated from Jefferson Medical College of Thomas Jefferson University, Philadelphia, in 1935 and served in the US Army during World War II, attaining the rank of major. In 1946 he joined the Chickasha Hospital and Clinic, where he specialized in internal medicine and nuclear medicine for some 27 years before retiring in 1974.

EMMETT HERBERT LINDLEY, MD
1915 - 1984

E. H. Lindley, MD, physician and surgeon in Duncan since 1940, died November 8, 1984. He retired from practice in 1981 and was made a Life Member of the OSMA in 1983. Dr Lindley earned his medical degree at Washington University in St Louis in 1940.

CLARK H. HALL, MD
1919 - 1984

OSMA Life Member Clark H. Hall, MD, died December 5 in Oklahoma City. He was a 1919 graduate of Jefferson Medical College in Philadelphia and completed his residency in pediatrics and internal medicine at the University of Oklahoma, where he later became professor and chairman of the Department of Pediatrics. Dr Hall was certified by the American Board of Pediatrics and was a Fellow of the American Academy of Pediatrics.

HENRY G. BENNETT, JR, MD
1913 - 1984

Henry G. Bennett, Jr, MD, chief of staff at Oklahoma City's Baptist Medical Center for 25 years, died December 18 after a short illness. Dr Bennett earned his medical degree at Johns Hopkins University School of Medicine in 1936 and served as a major in the Army Medical Corps from 1941 to 1946. A native of Hugo and a long-time Oklahoma City gynecologist, Dr Bennett was a past president of the Oklahoma County Medical Society and a well-known civic leader.

ADONIRAM V. BOWEN, MD
1944 - 1984

Adoniram (Don) Van Bowen, MD, secretary-treasurer of the Okfuskee County Medical Society, died December 29, 1984. Born in Henryetta, Dr Bowen earned his medical degree at Harvard Medical School in 1976. He completed a family practice residency at Community Hospital in Glen Cove, NY, before returning to Okemah's Creek Nation Hospital in 1979 to establish a practice. He also maintained an office in Okmulgee.

In Memoriam

1984

Jack H. Foertsch, MD	*January 19*
Thomas L. Ozment, MD	*February 11*
Thomas L. Foster, MD	*February 25*
Robert W. Lowrey, MD	*February 27*
Ella Mary George, MD	*March 1*
Kemper C. Lain, MD	*March 8*
William R. Cheatwood, MD	*March 12*
William A. Dean	*March 19*
Charles H. Cooke, MD	*March 23*
Donald J. Worden, MD	*April 1*
William I. Jones, MD	*April 3*
Paul Kernek, MD	*May 9*
Leon C. Freed, MD	*June 12*
William D. Bolene, MD	*June 18*
Lee K. Emenhiser, MD	*June 26*
Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Seth D. Revere, MD	*October 6*
Oliver H. Patterson, MD	*October 13*
Emmett H. Lindley, MD	*November 8*
Clark H. Hall, MD	*December 5*
Henry G. Bennett, Jr, MD	*December 18*
Adoniram V. Bowen, MD	*December 29*

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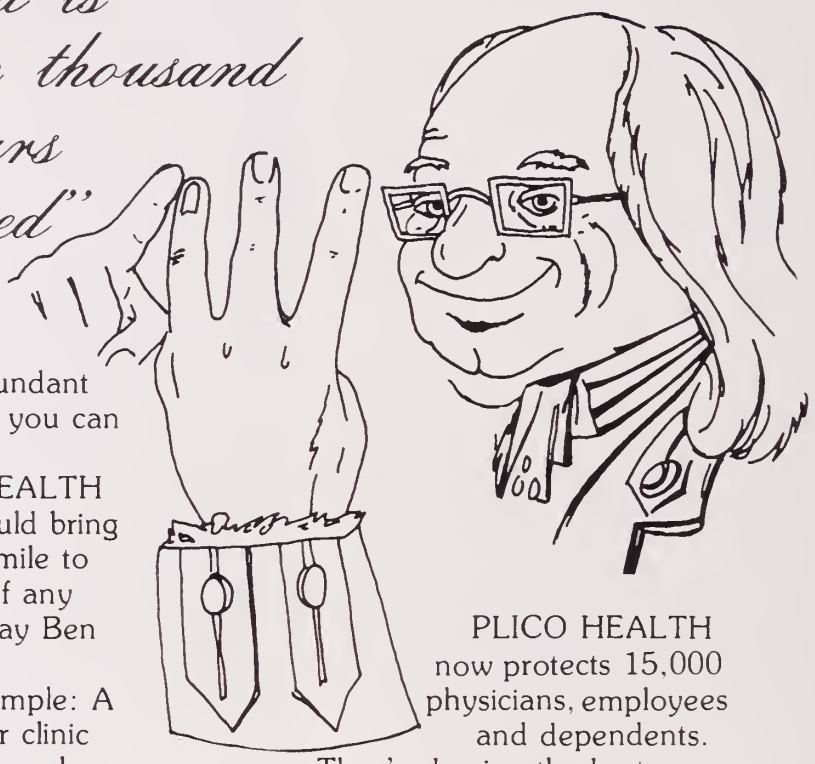
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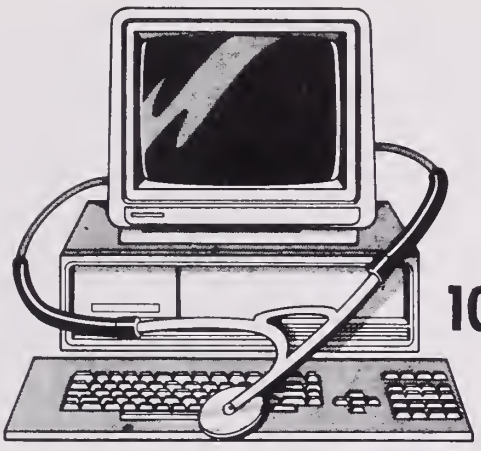
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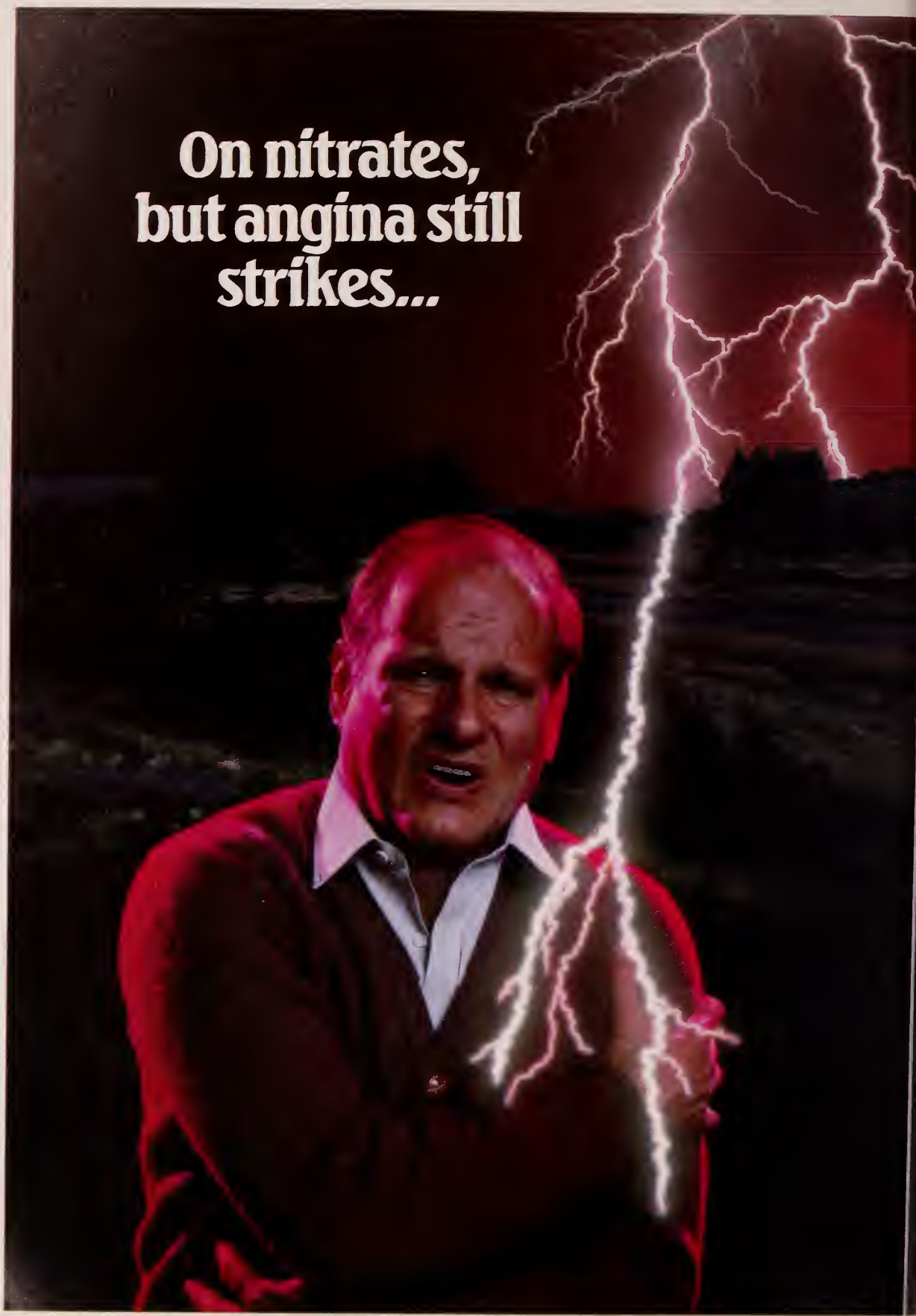
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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D-C-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C.* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk, therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block 3rd degree (0.8%), bradycardia HR<50 min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

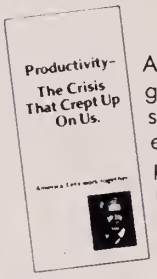
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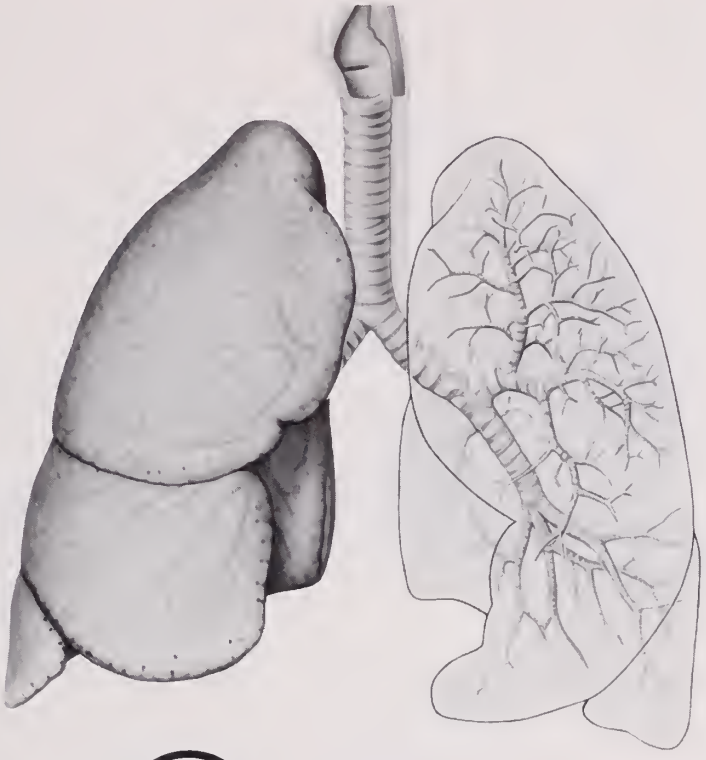
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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies and fluid electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g, pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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BACK ISSUES

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The Red Carnation—Symbol of Doctor's Day

On March 30, cities around the nation will pay tribute to a small minority group called "doctors." In 1933, Mrs Eudora Almond, the wife of a Georgia physician, presented her auxiliary with the idea of having a day to honor practitioners of the medical arts. Her auxiliary enthusiastically adopted a resolution whereby the day that a famous Georgian, Dr Crawford W. Long, first used anesthesia in surgery was adopted as "Doctor's Day." Since 1935, the idea of paying honor through some act of kindness, gift, or tribute in remembrance of doctors has spread across the country.

How surprised your FTD florist might be today if you called to order a bouquet of red carnations for your favorite physician to honor him or her on Doctor's Day. The reply might very well be, "Doctor's Day? I never heard of such a celebration! Well, how many carnations do you want?"

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—still choosing to practice medicine in spite of all of the controls placed upon your ability to do so by hospitals, insurance companies, legislation, etc.

—for using your much needed relaxation time to keep up academically with a quickly changing world and for having the courage to try new ideas and techniques.

—for taking time to listen to and answer my bungling questions born out of fear, anxiety, ignorance, and my inability to communicate in a medical language I barely understand, and for trying to make me as comfortable as possible in situations I find embarrassing.

—for trying to help educate your patients to make choices that will make them healthier, happier individuals.

—for helping my family and friends deal with dependencies that are burdening and defeating us.

—for sacrificing precious moments that could be spent with your family in order to help me deal with mine.

—for doing your very best to help restore me to good health without the aid of a bag of spare parts with serial numbers to fit my model number.

—for helping me deal with death with dignity and assuring me there is a big difference between punishment and tragedy, and that dying belongs in the latter category.

—for the time, talent, and money you so generously give to help support a better life-style for your community.

—for taking pride in your medical facility and its staff and in doing your best to enhance the image of the medical profession — not an easy task in light of bad publicity from the ever increasing number of malpractice suits.

—for maintaining your wonderful sense of humor, your own health, your gentle kindness, and your enthusiasm for practicing medicine with skill and understanding.

—for the charity, courage, love, and sacrifices you make in your daily ministry of healing humanity's ills.

One dozen carnations, please, for my favorite physician. Sign the card: With Love, from a grateful friend.

"K" Caldwell
State Doctor's Day Chairman

■ **PLICO's new 55-minute cassette on professional** liability loss prevention for physicians is now available at no charge to those who request it. One side of the tape is devoted to a series of loss prevention tips to help the physician avoid medical-legal pitfalls; the other side deals with communications as a loss prevention tool. Cassettes may be ordered by mail from the OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118. Please limit orders to one tape per physician, hospital administrator, or clinic manager.

■ **The Oklahoma Physicians Spring Seminar** will be held at the South Padre Hilton in Texas next month, Monday through Friday, March 25-29. The theme this year is "Be a Spring Breaker with Your Family." A limited number of discounted accommodations are available for *immediate* registrants. Persons interested in attending should contact I. H. Brown, MD, 5700 NW Grand Boulevard, Oklahoma City, OK 73112, (405) 946-0548.

■ **The Rehabilitation Engineering Department** at Hillcrest Medical Center's Tulsa Rehabilitation Center has been identified as one of fifteen exemplary programs in the nation for delivery of services to disabled individuals. The award was made by the Regional Rehabilitation Exchange, a federally funded project based at the Southwest Educational Development Laboratory of Austin, Texas. The Hillcrest program was cited as an example of a rehabilitation service delivery program's successful application of high technology to the vocational rehabilitation and medical process.

■ **Using experimental animal models, Helene** M. Boisjoly, MD, of Harvard Medical School, and colleagues demonstrated significant decrease in herpetic stromal keratitis (HSK) — inflammation of the cornea caused by herpes simplex virus — by applying a 1% solution of cyclosporine to the affected eye. Such infections now are treated with topical corticosteroids, which may be associated with several corneal complications, the researchers say. "Our finding of a beneficial prophylactic effect of topical cyclosporine in experimental HSK opens new possibilities for the treatment of HSK," they say in the December *Archives of Ophthalmology*.

■ **The Oklahoma City Chamber of Commerce** will host AMA President Joseph M. Boyle, MD, at its Thursday, February 28 meeting. Dr Boyle's topic for the noon meeting, to be held in the ballroom of the Sheraton Century Center Hotel, will be "The Challenges of Health Care in the '80s." A reception for the Los Angeles internist will begin at 11:45 am. Physician nonmembers of the chamber who wish to attend should contact the OSMA at (405) 843-9571 or (800) 522-9452.

■ **Chronic tonsilitis in young adults may be** treatable with drugs instead of the more often used surgery, according to a new report in the December *Archives of Otolaryngology*. Chronically inflamed tonsils in adults contain more scar tissue, possibly impairing penetration of antimicrobial agents, say Itzhak Brook, MD, MSc, of the Uniformed Services University for the Health Sciences, Bethesda, and Paula Yocum, of George Washington School of Medicine. Earlier use of clindamycin hydrochloride and lincomycin hydrochloride might prevent chronic infection, they add. The superiority of the drugs may be due to their effectiveness against a wider range of microorganisms.

■ **The percentage of foreign medical graduates** (FMGs) in US residency training programs has declined steadily since 1980 but still exceeds 25% in some states, according to the AMA's 1984-1985 directory of residency training programs. Nationwide, the directory reported that 18.4% of residents last year were FMGs, somewhat lower than the 24.5% in 1977 and 19.8% in 1980. US citizen FMGs in residency programs increased from 5,838, 44.2% of all FMGs in training in 1981 to 6,990, or 52.9%, in 1983.

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References: 1. Kales J *et al: Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al: Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al: Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Genatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al: Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al: Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al: Pharmacology 26*:121-137, 1983.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

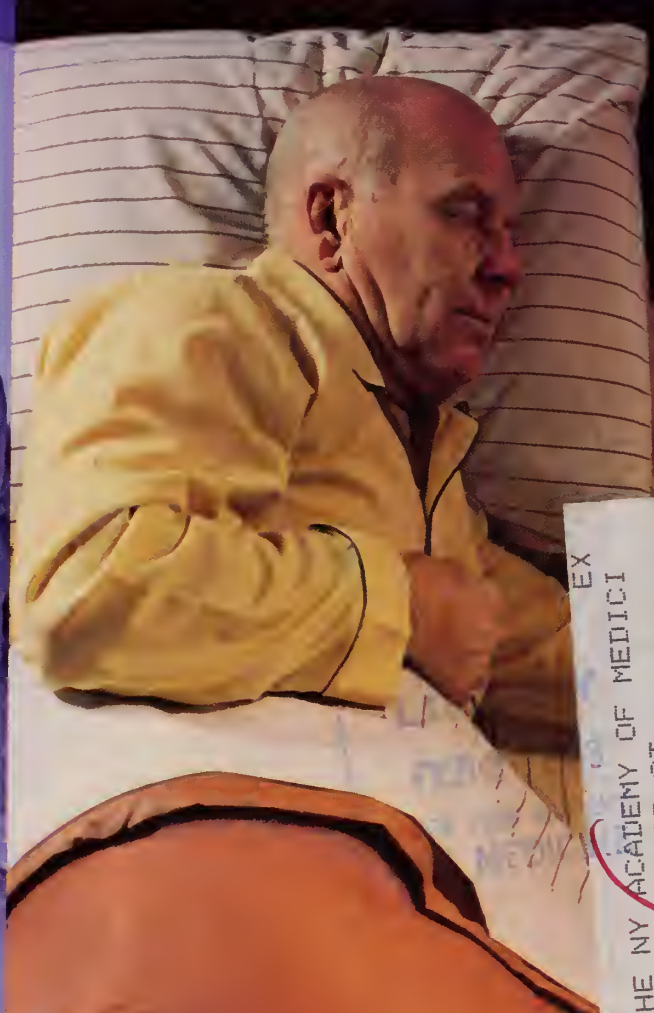
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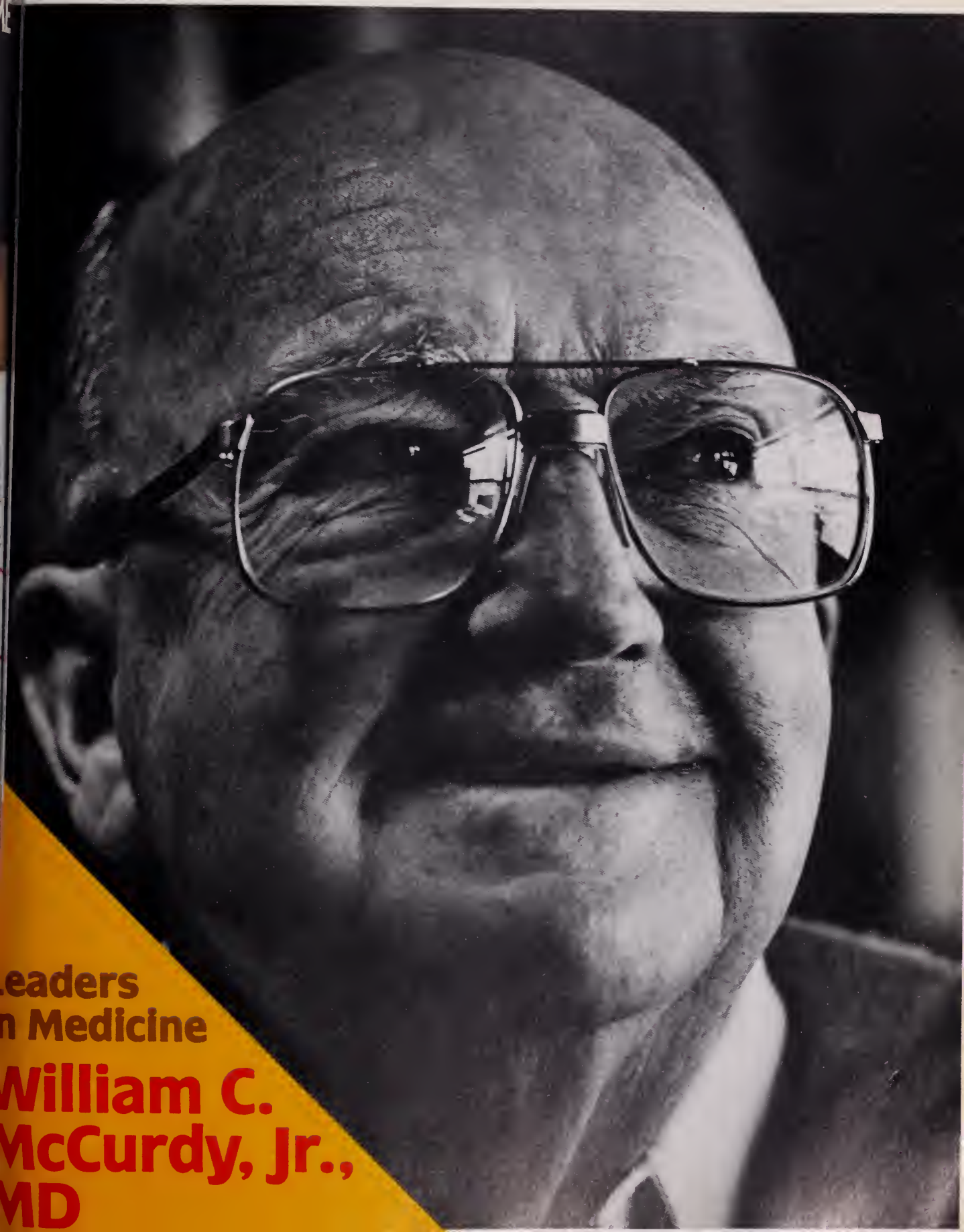


See preceding page for references and summary of product information.

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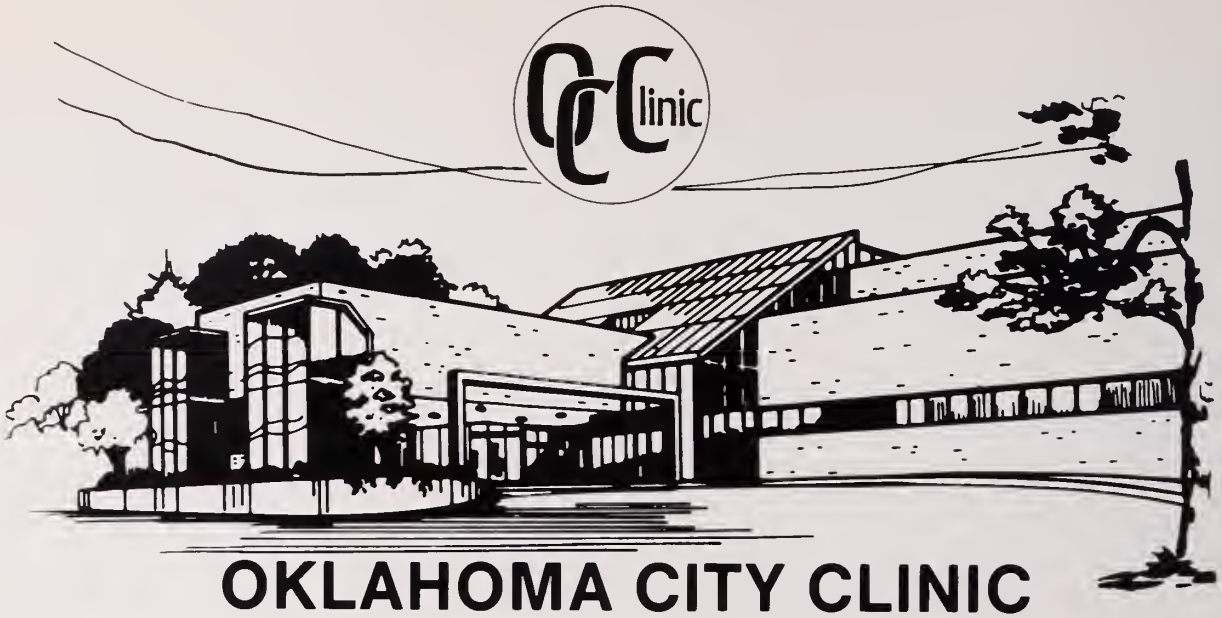
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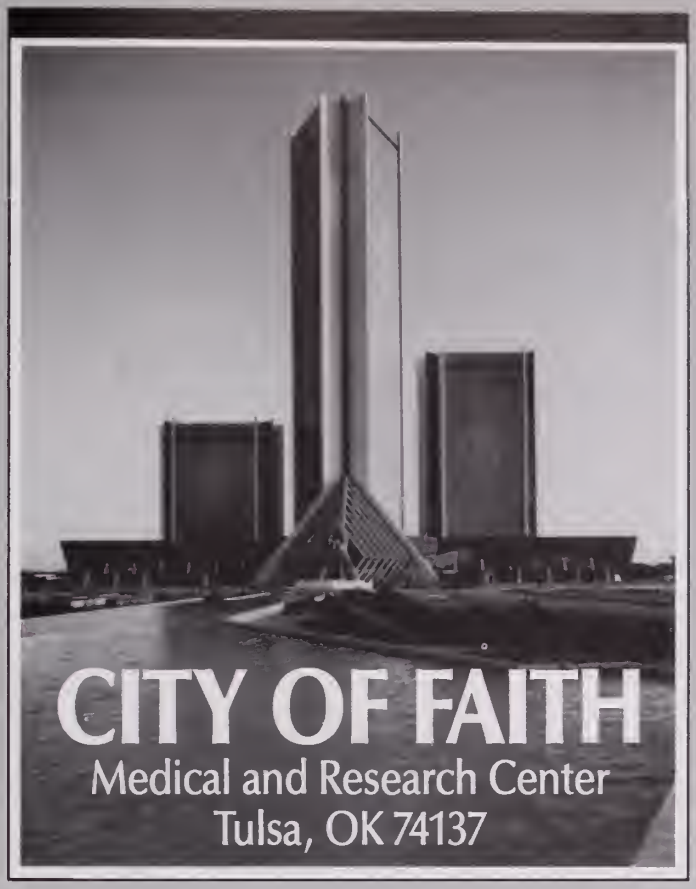
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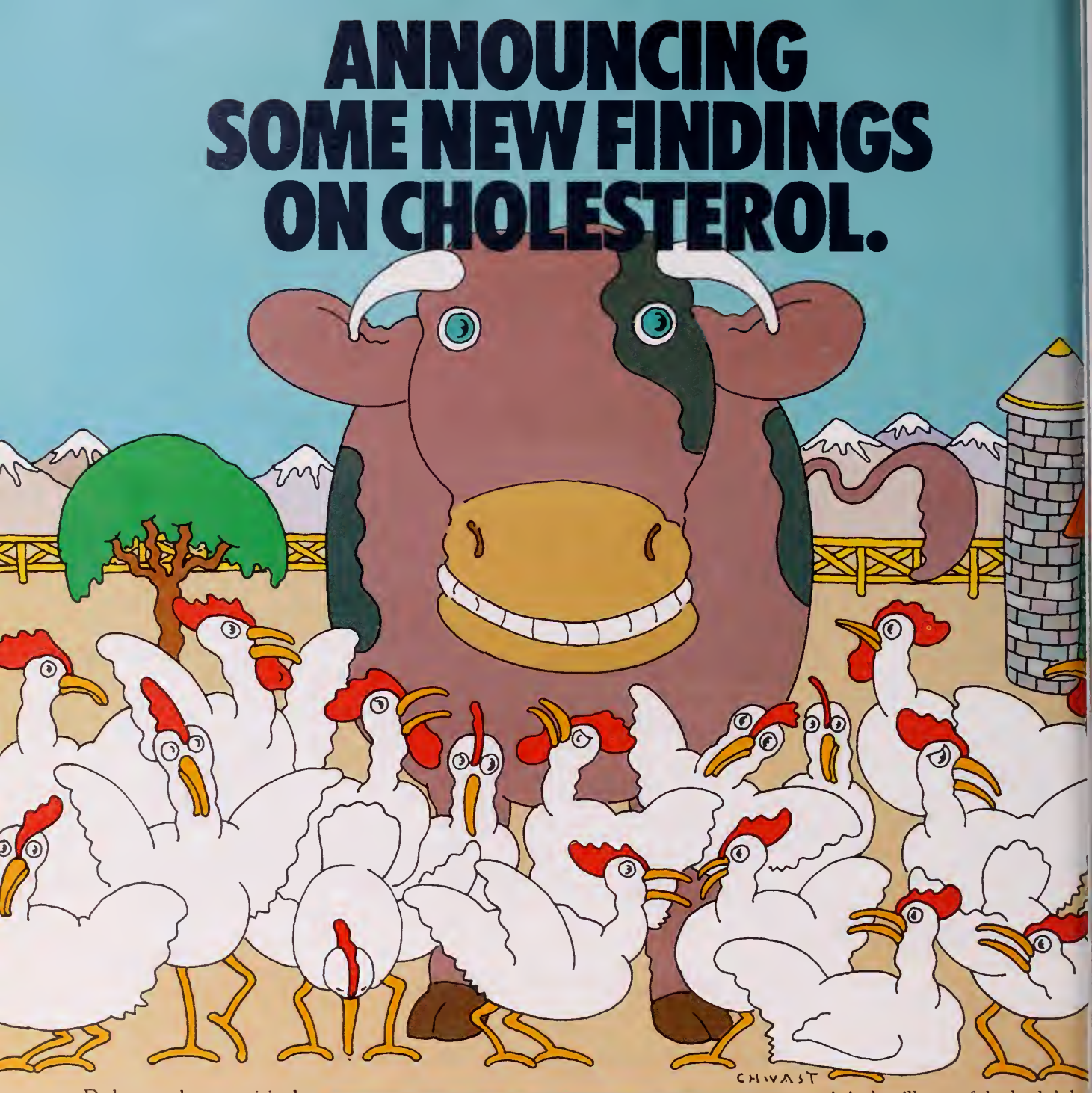
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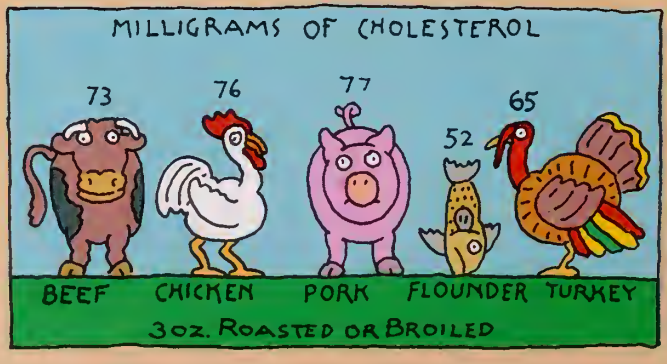
That was the finding of a new U.S.D.A. study on beef nutrient composition.*

That same study found beef is lower in calories than ever.

And lower in fat.

In fact, three ounces of beef now has just 192 calories and a modest nine grams of fat, over half of which is unsaturated.

Today, new breeding and feeding techniques are making beef a whole different animal. Though not so different that it isn't still one of the body's be sources of iron, zinc, B-vitamin and protein.



It all means moderate portions of beef can fit easily int a reduced cholesterol, low satu-rated fat diet.

And that can stop a lot of squawking when you recom-mend one.

For a free reprint of this a or additional information on the new U.S.D.A. beef study, write to: Department of Research and Nutrition Informatio National Live Stock and Meat Board, 444 North Michigan Avenue, Chicago, Illinois 60611.

OKLAHOMA BEEF COMMISSION

*Beef data from 1983 Beef Nutritive Composition Studies conducted by the U.S.D.A. and National Live Stock and Meat Board.

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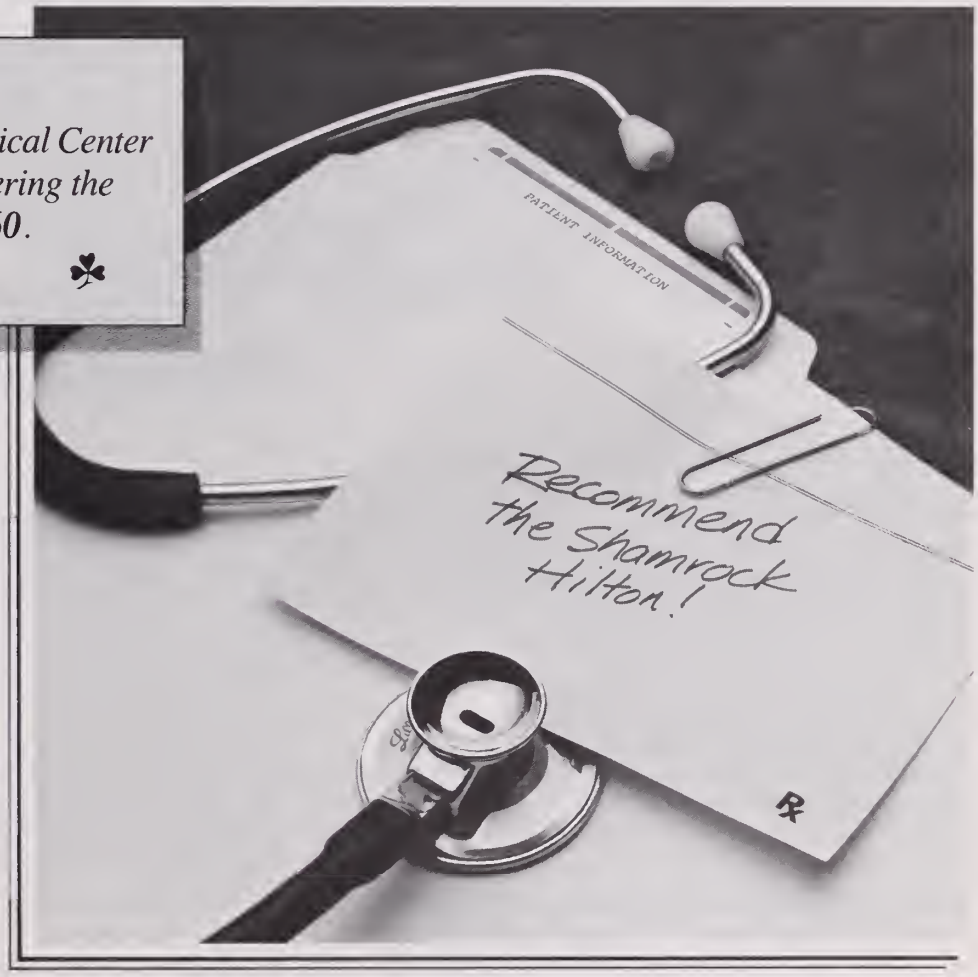
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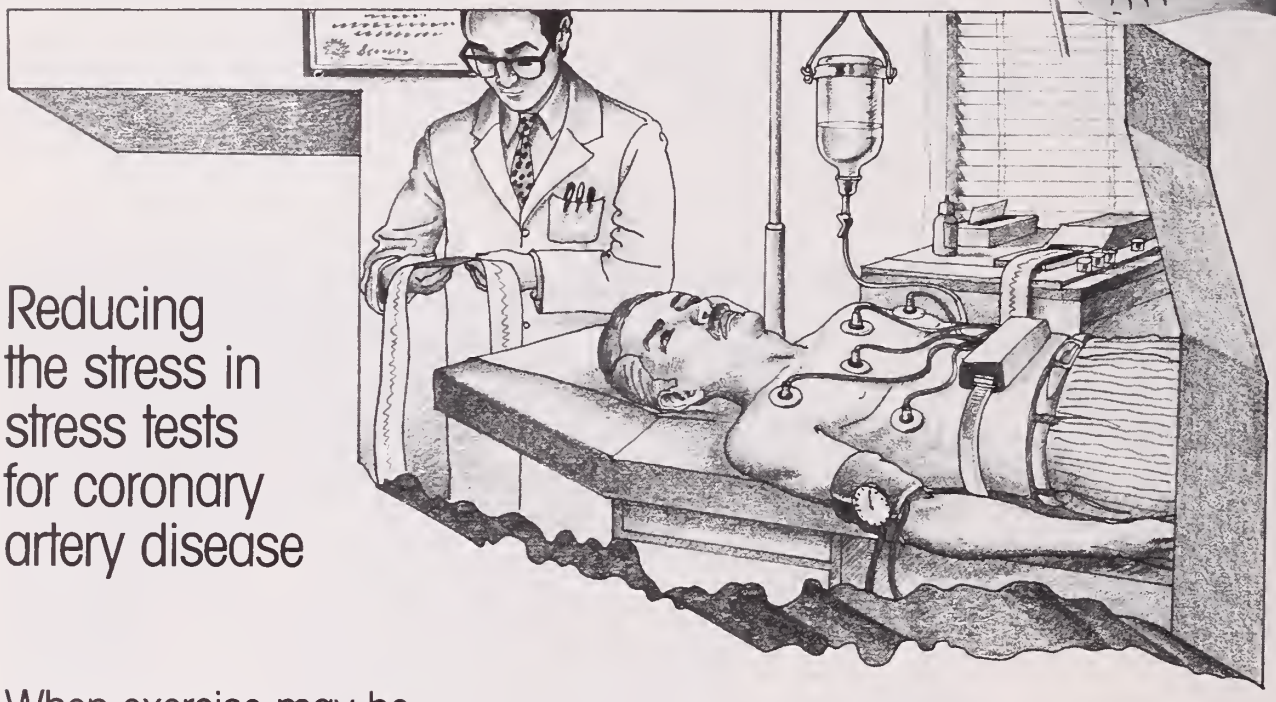
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OKLAHOMA MEDICINE TODAY



Reducing the stress in stress tests for coronary artery disease

When exercise may be contraindicated

Many patients with chest pains cannot exercise adequately. Yet traditional stress tests require patients suspected of having coronary artery disease to perform treadmill or bicycle exercise involving vigorous leg motions.

Recognizing the inherent limitations of such testing, researchers at the Veterans Administration Medical Center and the University of Oklahoma Health Sciences Center joined in efforts to develop an alternative method which would be equally useful in evaluation while eliminating some of the disadvantages.[1,2]

Investigating epinephrine infusion

Investigational studies were undertaken on the basis of the physiologic response to intravenous epinephrine infusion in patients with chest pains. Arterial blood pressure, systolic time intervals and ECG measurements were recorded before, during and after the infusion.

Encouraging results to consider

While the patient sample was statistically small, the results were significant. The predictive value of a positive test for coronary disease was 100%, while the predictive value of a negative test for excluding coronary disease was 80%.[2]

Additionally, none of the patients suffered complications from the epinephrine infusion, nor were there signs of agitation or anxiety during the test period.

Further, epinephrine infusion has some specific advantages: since exercise is not required, patients with pulmonary disease, neurologic defects, peripheral vascular disease or other problems precluding exercise can be tested. The patient's cooperation is not required, the equipment requirements are minimal and inexpensive and, since the patient is lying quietly during the tests, other measurements may be taken concurrently, resulting in a saving of technician time.[1,2]

References: 1. Treadmill test alternative. *Diagnosis*, Jul 1983, p 11. 2. Schechter E, Wilson MF, Kang Y-S: *Am Heart J 105*:554-560, Apr 1983.

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Marked improvement often occurs as early as the first week

Headache, insomnia or GI upsets associated with mixed depression and anxiety often respond quickly

Feeling better, patients feel encouraged to stay the course—therefore, fewer dropouts: $P = .006$ compared to amitriptyline*

Convenient single *h.s.* dosing sufficient in some patients; helps patients with mixed depression and anxiety sleep through the night. Patients should be cautioned about the combined effects of Limbitrol with alcohol and other CNS depressants, and about activities requiring complete mental alertness such as operating machinery or driving a car.

In moderate depression and anxiety

IN PLACE OF LIMBITROL 5–12.5 WRITE: **Limbitrol®**

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

IN PLACE OF LIMBITROL 10–25 WRITE: **Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

Easier to remember... easier to prescribe

*Feighner JP, *et al Psychopharmacology 61*. 217-225, Mar 22, 1979

Please see summary of product information on following page.

LIMBITROL® Ⓥ Tranquilizer-Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

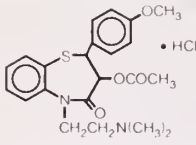
PROFESSIONAL USE INFORMATION

cardizem® (diltiazem HCl)

30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy) -5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm. CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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Great Way to Go

Much has been written of the woes that have befallen medicine and the health professions in the past twenty-five years. Some of it has been in this journal, and most of it has borne the taint of self-righteous defensiveness and indignation. Readers, especially the casual ones, probably and understandably believe that what has appeared here totally lacks even a hint of introspective candor. While not entirely accurate, such a view is, in my opinion, adequately justified and deserves some remedial effort from me.

We physicians share considerable culpability for most of our truly major woes. Our greatest and most universal shortcoming is a lethal lack of concern. Our involvement in any issue is almost exclusively crisis related, disorganized, uninformed, and of course ineffective. To classify it as reactionary would be flattery. It is only hyperkinetic.

Typical is our response to personal involvement in a malpractice suit. Angry, impulsive, vindictive rhetoric. The pale, glimmering light of honest understanding is almost blown out by the winds of our puffing. We *know* why the suit materialized. We have read and heard the thousands of words written and spoken thousands of times delivering the same message, over and over again. Most malpractice suits can be prevented. Most malpractice suits represent the retaliatory responses of patients who were not treated in a friendly, compassionate, gentle, and caring manner; whose questions were ignored or abruptly dismissed; whose loved ones were avoided; whose financial hardships received no consideration as demonstrated by the threatening collection notices we mailed to them.

Fully aware of our legal vulnerability, we chose to be unconcerned and aloof. We didn't have the time to become involved with issues we considered peripheral or incidental. Until the summons was delivered.

We limit our support of collective action to criticism alone. Instead of contributing our time and money in support of a potentially effective organization or effort, we complain that we can't agree with *everything* they propose and smugly refuse to participate, personally or financially. "The AMA doesn't do anything for me. I don't want to get involved in 'organized medicine.' Their problems don't concern me." Until the latest Medicare regulation is announced, or a tax funded medical research grant is cancelled.

We continue to be shocked by each new law that emerges from our state and federal legislatures. We express angry incredulity when we realize the influence and power exercised by certain organized lobbies as they move against our profession in support of quackery, ineffective even dangerous therapies, and the practice of medicine by untrained and incompetent individuals. But we don't bother to get acquainted with our political representers. We don't bother with political issues. We don't get involved with politicians. "What goes on in the legislature doesn't concern me." Until chiropractors start doing surgery, optometrists start treating eye diseases, or politicians take personal charge of all medical licenses.

A few of us are concerned and do get involved. Most of us prove, by our total lack of involvement, that we are not concerned. Except to point out how ineffective the efforts of the few have been.

Perhaps you are the one who doesn't have time to cultivate a friendship with your patients or work in medical organizations or bother with political issues or associate with politicians. Perhaps you are not concerned about the future of your profession and can't afford to get involved in any of our problems.

If you are the one, I'm sure you won't be too concerned to discover that we are all dying in your sleep.

— *MRJ*

Something Special . . .



Did I ever show you my 1980 Olympic belt buckle? It's brass, I think . . . in the shape of a shield . . . with the "USA" prominently just above center, "1980" lower right, and the interlocked five Olympic rings centered at the top.

Sure, I was on the team — yet I didn't train, sacrificed very little, was never tempted with "blood doping" or other quasi-legal ways to get an advantage in Olympic competition — didn't even go to the games, matter of fact!

My 1984 buckle is even more impressive . . . oval with Olympic torches bent to fit the curve at each lateral pole, the locations of Winter and Summer Games flanking the center decoration . . . a "USA" over a "1984" above those five rings. Yes . . . I was on the team again . . . vicariously, of course . . . this time coming as close as driving by some of the L.A. Olympic installations in December of '83!

But, despite the pride of being a part of the Olympics by the simple means of a cash donation . . . despite the thrills of sharing with the athletes in Sarajevo and Los Angeles . . . vicariously, again . . . the joys of victory (often) as well as the agonies of defeat (seldom), there is no comparison to the pleasure I've derived from supporting the Special Olympics in Oklahoma.

You see, I have a brother who has participated for some years now in Special Olympics among those over 17,000 "8 to 80" mentally retarded citizens of our state, and I know how earnestly these athletes, young and old, prepare themselves for the State Games, the high point of the SpecOlympic year. These competitions, untainted by professionalism and the shrewd maneuvering of trainers and coaches to whom "winning is everything," fill a definite need in these peoples' lives . . . give them a real opportunity to show what they can do, despite their various handicaps . . . allow them the added thrill of much-needed adulation and (some) even appearing on TV!!!

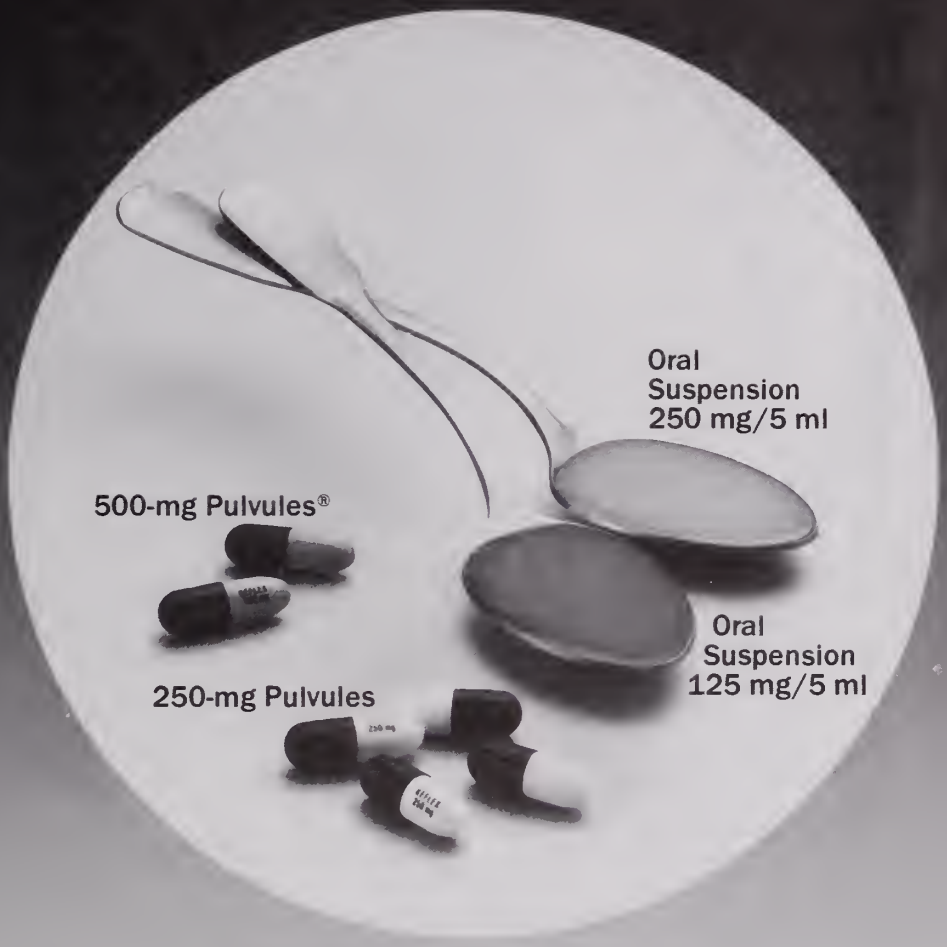
Track and field meets begin this month in a number of Oklahoma towns . . . including Pauls Valley, Alva, Broken Arrow, and Miami, to name a few . . . heralding individual and team competition after primarily team competition in soccer, bowling, softball, music, volleyball, basketball, and gymnastics occurred last fall and winter. Area swimming and track and field meets will fill April and culminate in the State Games on May 15, 16, and 17, this year being held at Oklahoma State University in Stillwater.

How can you help? . . . simple: first, just send a check (tax deductible, of course), in any increment of $30 your heart desires, made out to "OSMA Special Olympics" to me at the Association office, 601 Northwest Expressway, Oklahoma City, OK 73118 (I'll see that they get it!); second, apply to give physical exams for the athletes, if you'd like, either locally or through Oklahoma Special Olympics, Inc., in Tulsa (800-722-9004); third, go out and CHEER at your local or area meets and, finally, attend the State Games at OSU May 15-17, 1985.

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INSURANCE

Leaders in Medicine

William C. McCurdy, Jr., MD

Story by RICHARD GREEN
Photographs by J. DON COOK

Soon after the Oklahoma Academy of Family Physicians sent out requests for nominations for its annual "Outstanding Family Physician Award" for 1984, the state office was swamped with testimonial letters for one man.

While other family physicians were nominated, the support for Dr William C. McCurdy, Jr., of Purcell was "completely overwhelming," according to the academy's public relations committee chairman, Sam Musallam, MD.

It was obvious a campaign was underway. It had begun with Dr John Rollins, another Purcell family physician, who nominated "Dr Bill," as he has been known affectionately in Purcell for 40 years.

"I nominated Dr Bill because he deserves it more than anyone I know," Rollins said. "He is my idea of a family physician. I suggested to the other doctors and nurses at our hospital that we support Bill, and from there the thing just naturally snowballed."

Indeed. In addition to a petition signed by 330 persons attesting to Dr McCurdy's qualities, the academy also received dozens of testimonial letters from Purcell and McClain County residents. Many were from civic leaders and other prominent persons, but most were from Dr McCurdy's patients, and these were letters from the heart.

Technically, they were *former* patients because McCurdy retired in 1983. Nonetheless, the academy's award is viewed as a career honor, and as Dr Rollins said, no one deserved it more.

Dr McCurdy was also the state academy's nominee for national Family Physician of the Year, an award sponsored by the American Academy of Family Physicians and *Good Housekeeping* magazine. Ultimately, Dr Bill placed in the Top Ten.

The magnitude of the write-in campaign for Dr Bill was unprecedented in the state. Though civic pride probably was a factor in the effort, love and respect for the man were the main energizers. This story is about how he earned them.

Bill's parents met on a train in Texas in 1904. His father, William McCurdy, Sr., and his uncle, T.C., were returning to medical school at the University of Texas in Galveston. Each had been given $200 from their father to pay all expenses for the school year. Suddenly, T.C. discovered that his money was missing, and a great commotion ensued; soon everyone in the car was searching for the apoplectic young man's living expenses.

The money was found, but not before Bill Sr. had found something else — a school teacher named Mamie. After a few years of correspondence and courtship, they were married in 1909, and for some unknown or forgotten reason they moved to Purcell the next year.

Bill Sr. delivered his son in their home in Purcell on May 27, 1910. He also provided the town's medical care by himself until he was joined by T.C., who had completed his internship. The brothers practiced together until 1917, when the federal government decided that one of them would have to join the army,



which was mobilizing to enter World War I. As both brothers had families, they flipped a coin to see who would go. It was T.C. Thus are destinies sometimes decided.

Bill McCurdy, Sr., influenced his son by example, and the result was a classic case of "like father, like son." Since Purcell had no hospital or clinic then, he traveled more than a circuit preacher. He went without complaint when he was called, and sometimes Bill Jr. went with him.

Though doctoring was primitive in the twenties, Bill Sr. did the best he could with what he had. In those preantibiotic years, pneumonia was especially lethal. Still, through experience, intuition, and determination, he could often achieve good results.

"I remember going with my father one cold winter night to the mayor's house," Bill relates. "The mayor was a big heavy fella with a pretty bad case of pneumonia. His breathing was real labored.

"Dad applied mustard plasters and buried him in hot water bottles and blankets. He told the family to keep stoking the wood-burning stove and open all the windows. After a time, the mayor's fever broke and he recovered."

Bill Sr. hadn't cured the man so much as he had established the conditions necessary for recovery. At other times, though not even that was possible. "Many families in McClain County lived in earthen dugouts," Bill says. "There was no ventilation, and the floors were always damp. These places practically fostered pneumonias, and once they developed there was little hope despite my father's best efforts."

Bill had always wanted to be a physician, like his father. "I just fell into it," he says now, but his father obviously was his role model. In Bill's formative thinking, he had to be a doctor, too, and, in the course of his development, he managed to adopt many of his father's best traits. These were to mark Bill's own practice and were possibly even essential to his emotional well-being during most of the forties, when he served the entire county's medical needs alone.

Bill had excelled in high school as a feisty little quarterback, but as a college freshman and member of the University of Oklahoma Sooner football team, he had to come to terms with reality. The 135-pounder took a beating for six or eight weeks and then quit the team, which went on to a 5-3 record that included a 44 to 6 flogging by Nebraska.

He also pledged a fraternity during his freshman year and served as its house manager for his final

three years of college. It was a lot of work and probably kept his grades down a bit, but the money helped pay his way through OU.

Bill "wore out three tuxes" taking coeds to dances during his college days, but was careful never to get too involved. By graduation he had decided to attend Tulane Medical School in New Orleans because two or three of his best friends were going three.

He left Purcell for medical school, intending to return to practice with his father. But, though this desire "always was in the back of my mind," some other attractive opportunities were to materialize.

Bill's freshman medical school class had 128 members, but "we were told the first day that there was funding for only 110. I wrote my parents that I'd be home any day. 'Look out for me.' "

Actually, he did well because he had plenty of stamina and determination, and as it turned out, toughness was a good predictor of success.

The first two years were all basic science and books, especially anatomy and dissecting cadavers. Bill didn't see a patient until his junior year, and then he saw plenty at the awesome 4,000-bed Charity Hospital. Most of the charity wards had two patients per bed. "Many times I'd be working one of those wards and hear a scream from a patient who had just discovered that the other person in his bed was dead."

After graduation, Bill did his internship in Wheeling, W Va, and then received additional training and experience in industrial surgery, a title derived from the setting where it was practiced. In Bill's case it was Industrial Hospital in Chattanooga, Tenn, home of numerous hosieries.

He was attracted by the pay, $200 a month — more than double his previous high — and a yen to do surgery. In fact, by the end of that year he was scheduled to start a three-year residency in brain surgery at Bellevue Hospital in New York City.

However, another event intervened. A secretary at the hospital asked Bill if he would like to have a date with the "prettiest teacher in Chattanooga."

"I said, 'Forget it, I've got too many other interests.' But that woman wouldn't take no for an answer."

So Bill took Olga Whittenberg to the tri-state fair. And after all the rides and midway and exhibits and cotton candy, the man who wore out tuxedos dancing at OU while, scrupulously avoiding entanglements, said to Olga, "Let's get married."

She told Bill that he was crazy, but five months later they were married. And, as it turned out, that precluded Bill's participation in the Bellevue residency program. "They had a rule that you had to be single because they said the program was too rigorous for married folks."

Still, by the time he discovered his ineligibility, Bill had just about decided to return to Purcell anyway. Oklahoma State Senator Jim Nance had been writing to him about his father's declining health and encouraging him to move back home, so in 1939 Bill and Olga packed their few possessions and moved to Purcell. Meanwhile, Europe was poised on the brink of World War II and America's military involvement seemed inevitable. It looked like Bill wouldn't be home for long.

Father and son began practicing together in rented space above the bank. The only access to their office, according to Senator Nance, was "a very steep staircase, which was almost more dangerous than not visiting the doctors at all."

Most of the responsibility for providing medical care to the county shifted immediately to Bill. It was a burden he was happy to accept, in a way, for the years of service had exacted a severe toll on his father's health. Yet, he didn't want to follow in his father's footsteps, crisscrossing the county day after day, spending as much time getting to his patients as he did treating them. "I just thought all of my training would be wasted unless I could get patients to come to me, and that meant building a clinic or hospital," Bill says.

So Bill went to Senator Nance for help. Nance, who owned the Purcell *Register* and other weekly newspapers, loaned Bill the $15,000 needed to build the hospital. It was the first one between Norman and Ardmore, and when it was finished in September 1940, father and son held an open house.

Called the McCurdy Clinic, it had five patient beds and office space for both physicians. The staff consisted of a nurse, a secretary, and a cleaning lady who stayed with the patients at night.

Eight months later, in May 1941, Bill was drafted



into the army. When he joined the Second Armored Division at Fort Sam Houston in Texas, he left Olga and their two children, Billy, age 2, and Gary, age 6 months. Later, they would have a daughter, Gail.

The father-son practice had lasted less than two years. Now Bill Sr. was back in the pressure cooker, as the area's only MD. And the demands were too much.

About three months later, when Bill returned home on a short leave, his mother, Mamie, told him that his father had been in his room for three days and wouldn't let anyone in or talk to anyone. She had been leaving meals by the door.

When Bill couldn't get a response from his father, he broke down the door. Inside, he found his father partially paralyzed from a stroke. For rehabilitation, Bill Sr. was taken to relatives in Arkansas, leaving Purcell with no doctors. Bill again asked Jim Nance for help, and Nance helped get him a deferment. Bill began caring for the people of Purcell and McClain County, and did so pretty much alone throughout the decade of the forties.

Bill Sr. eventually recovered enough to help out until 1948, when a heart attack incapacitated him for the remaining three years of his life.

Because many of his father's former patients expected him to make house calls, Bill continued to make them into 1942. Then late one evening, "after I'd been treating a patient all day at his house, I returned to the hospital and my secretary said, 'We had about twenty-five patients come in today and most of them waited for hours.' I realized I couldn't do that anymore," Bill says.

He realized that, like perhaps most small town general practitioners during the war, he had a chain around his neck. His only chance for a respite came on Thursday afternoons, when he would try to get in nine holes of golf, a sport he had been devoted to since grade school. However, more often than not, according to his friends, Bill would get a call and have to leave early. Surely he was disappointed, but no one ever heard him complain or speak negatively about any patient.

Bill would start seeing patients about 8 AM and between thirty and fifty would be examined and treated by suppertime. Then he would return to check on the hospitalized patients. Only a small percentage of his patients needed to be referred to Norman or Oklahoma City, mainly because of his surgical expertise.

He even treated many of the trauma cases, which were abundant because Purcell's location made it a transportation hub in the state. Two major highways intersected there and it was the major railroad switching station between Chicago and Galveston.

As the official doctor for the Santa Fe Railroad at this key location, Bill saw quite a variety of trauma cases. Once a brakeman, whose hand had been severed by a moving train when he fell onto the track, was hospitalized in Purcell. Bill stabilized the man's condition except for some severe "phantom pain" associated with the severed hand.

"This brakeman told his friend about the terrible pain coming from his 'hand,' " Bill recalls. "So he went out and found the hand all curled up, and straightened out the fingers. Then he told the brakeman what he'd done, and the brakeman said the pain just vanished. I should mention that the disappearance of pain also coincided with an injection of morphine I had given just previously."

Bill's life and work were almost one. "Olga raised the children," he says. That she did a great job provided some solace to a man who regretted the time spent away from his family, but he didn't see any way to cut down.





He tried to get some help, but the war had taken most of the physicians. And his offer to those who remained was decidedly unattractive. Many of his patients either couldn't pay or paid in kind. At least half of the fees that were paid went to retire the debt on the hospital — the payment was $125 a month. There were times in the early forties when Bill had to borrow money in order to pay Evelyn Hammond, who worked for him from 1942 until 1976.

The hospital charge was $7 per day, and that included the room, three meals, and an enema. Since the hospital had no kitchen, the patients' meals were provided by a nearby restaurant, and as often as not, Bill brought them in himself.

Until late 1947, he managed to cope with the patient load because his father was helping. But after his father suffered a severe heart attack, Bill found himself inundated with patients. Almost in desperation, he called Dr Mark R. Johnson, whom he knew had a temporary position as medical director of the nearby Cleveland County Health Department.

"Dr McCurdy said he was swamped with work and wondered if I could move down there to help," Mark Johnson says. "I said that I might be called to active duty in the military service at any time. Bill said even two weeks would help. In that I had no contractual agreement, and was eager to practice medicine, I accepted his offer. And for me it was a case of being at the right place at the right time."

Johnson says during his six months in Purcell, he saw medicine practiced at a high level of competence, concern, and sincerity by one of the best general practitioners. "His energy was boundless, but also disciplined and productive."

Johnson notes that only three to five percent of the patients needed to be referred. "I was amazed at the amount of things Dr McCurdy could do and do well. He did lab studies and read a great variety of x-rays. He was very skilled at setting fractures and presiding over complicated deliveries."

The amount of work was incredible even for two physicians. In addition to seeing forty to fifty patients from 8 to 5 in the clinic, they also made house calls, delivered babies, performed surgeries, and treated trauma cases. They worked Saturdays and most of each Sunday to accommodate the folks who only came to town for marketing or church.

"I was running out of energy and feeling frustrated," Johnson relates. "With such a load, all we could do was see patients. In the evenings when things quieted down, we both lamented the lack of time to make a proper diagnosis. It seemed to me that most of the patients I saw could have been treated symptomatically just as well by a good pharmacist."

That's when Mark Johnson began appreciating the difference between an internist and a general practitioner. "A general practitioner's commitment is to a community, and his limitation is time, not skill or knowledge or sincerity. An internist commits his expertise and his time to one patient."



Six months after settling in a converted garage apartment with his wife, Johnson was called to active duty. Bill offered to try to get Johnson's call deferred, but Johnson said he felt a strong obligation to serve.

Once again, Bill shouldered the load, and though the stress must have been almost palpable, it didn't even dent his basic optimism. He continued to haul those golf clubs out on Thursday afternoon, and by 1950 he was the club champion in Purcell.

When the new decade began in 1950, Bill finally got some help. Dr George Long came to Purcell to establish a practice, and just about a year later another physician joined them. Bill decided that his little hospital needed to be expanded, so he had a new wing built at a cost of $30,000. If he had ever entertained any serious notions about leaving Purcell, they were now laid to rest; this new commitment to meeting the county's health needs signaled his intention to stay put.

When the OU medical school started a preceptorship program in 1949, Bill enthusiastically volunteered and served as a preceptor for twenty-five straight years.

Though the presence of other physicians could have altered his practice, he continued as before. "Once, he came early in the evening to treat one of our daughters who was running a high fever and on the verge of pneumonia," write Robert and Joan Stephens of Purcell. "Near midnight, he was back voluntarily and sat with us until almost dawn, when her fever broke. Our bill for that service reflected one house call."

Bill's new partners finally persuaded him to change some of his practices. "After Dr Long had been with me awhile, he said we should close the office at noon on Saturday. I said that we couldn't because the people from out of town came in on Saturday. He said 'Let 'em come in the morning.' I said no, but he kept after me, and a few months later I gave in."

Then when another physician joined them in practice, he asked Bill, "What in hell are we doing working on Saturday mornings?" Bill resisted this change even more intensely, but again ultimately capitulated.

A more significant change occurred in 1971, when the McCurdy Hospital closed for good. As the community's health needs continued to increase, it had become apparent that a new facility was needed. According to Evelyn Hammond, "When we moved to the new hospital, Dr McCurdy let on like it didn't bother him, but if I know him as well as I think I do, he probably couldn't see the road in front of him on his way home. That hospital was a part of him."

In 1960, the McCurdys' oldest child, William C. McCurdy III, entered the OU medical school and four years later joined an expanding list of McCurdy physicians. Billy, as his parents called him, completed a surgical residency at OU and later served in the US Army Medical Corps in Vietnam before establishing a surgery practice in Norman. His brother, Gary, was interested in medicine during college but eventually entered business in Purcell. Their sister, Gail, became a school teacher in Texas, but later, as Gail Hurley, moved to Norman with her family.

Olga, formerly the prettiest school teacher in Chattanooga, had run the family while Bill did the doctoring. And by all accounts, she did an excellent job — by serving as the family's fulltime operations director and by teaching and imparting values to the children.

It is somewhat ironic, then, that Bill was named Purcell's "father of the year" for 1970, while Olga never received public recognition. It isn't that Bill didn't deserve the award, but as he continually pointed out, Olga raised the kids.

Her only disappointment seemed to be her inability over the years to persuade Bill to cut down his work load. By the early seventies, with the children out raising their own families, she was looking forward to spending more time with Bill and seeing the world outside of Purcell.

It was then, however, that she first developed symptoms of Parkinson's disease, and although medication controlled the tremor and gait problems for a time, the disease gradually worsened. By the late seventies, Bill had decided he would have to retire to care for Olga, and in early 1979, he announced his retirement. In June they locked up their home in Purcell and moved to Colorado Springs, to their condominium overlooking a beautiful golf course.

While the golf course tantalized Bill, he only played a round or two. "By then, Olga needed help to walk, and I just didn't want to leave her." Without any close friends there, they spent most of their days talking about Purcell.

One day in September, Bill looked up from his reading and said to Olga, "Let's go home."

She smiled in relief. "Start packing."

When the McCurdys returned to Purcell, Bill hung out his shingle again, despite some embarrassment on his part. Before he had left, the community had thrown a huge retirement party complete with gifts and testimonials.

He bought Olga a new Cadillac, but she was able to drive it only three times before her illness overwhelmed her. She died on October 4, 1982.

Bill retired again in 1983. He occasionally still sees a former patient, but only as a special favor. Since his retirement, two very significant events have occurred in his life.

One happened in the winter of 1984, when he developed carcinoma of the rectum. According to his son Bill: "After he discovered some rectal bleeding, he went to Denver to see his brother, James, who is a surgeon there. Then, Uncle Jim called me and said Dad would have to have surgery.

"The night before the surgery, Dad told me, 'Bill, this nurse was in here telling me all about colostomies, and you know, by the time she left, I didn't know how I'd gotten along without one for so long.' "

Only time will tell if the surgery and other treatments have destroyed the cancer, but Bill was in apparent good health as he set out on a long-awaited around-the-world cruise in January. And that relates to the other significant event.

Fifteen days after Olga's death, Bill read in the newspaper that the husband of his old high school sweetheart had passed away in Oklahoma City. A few months later, Bill called Betty Schaefer and asked her to dinner. They have been dating ever since, and are taking the aforementioned three-month cruise together. He says his only regret is that by the time they return, his "golf game will be a mess."

That's what he says, but he'll miss his friends and family a lot more than his golf game. Bill just doesn't talk about the affection and love he reciprocates throughout McClain County. He doesn't need to because he's been demonstrating them every day since he came home to help his father so long ago.

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The Role of the Teaching Nursing Home in Residency Education

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Geriatric training in family practice residency training is mandatory. This article addresses the practical aspects of developing a teaching nursing home and describes its benefits and value to patients, staff, and the medical education program.

The need for a defined curriculum in geriatrics in the training of family practice and other primary care residents is evident. Demographic trends indicate an increasing significance of the older population in actual numbers, in influencing legislative and public policy, and in utilization of health care resources. As of July 1982 there were an estimated 2.4 million persons in the United States over age 85 and 32,000 persons over age 100. Twenty-four thousand of those over 100 are women. The United States Department of Health, Education, and Welfare (USDHEW) projected that the over-age-65 population would increase to 35 million by the year 2000 and 45 million by the year 2020.[1] More importantly, by the year 2000 these numbers would include 17 million over age 75 and 5 million over 85.

The older person uses a disproportionate amount of health care resources. In 1978 the number of short-stay hospital discharges for all ages was 164 discharges per 1000 population; however, for persons over age 65 the rate was 362 discharges per 1000 population. The 11% of our population over 65 in 1979 used one-third of the hospital beds, were responsible for one-fourth of all medications prescribed, and accounted for 30% of the health care dollar expenditures.[2] Forty-two percent of our 1983-84 federal budget was designed for entitlement programs, primarily Medicare and Social Security.[3]

The family physician is responsible for much of the care of our older population. An American Academy of Family Practice (AAFP) survey indicated that one-fourth of the patients of academy members are 65 or older, and 42% of all office visits by persons over age 65 are to family physicians.[4] In spite of the obvious need, traditional residency training programs have not been geared to meet the needs of the older person. An American Medical Association (AMA) poll indicated that 75% of practicing physicians felt their knowledge of how to treat the older patient was inadequate and expressed a desire for additional training in geriatrics.[5] Unfortunately, many physicians have a negative, sometimes even hostile, attitude toward older people. The geriatric curriculum objectives of the AAFP lists as the first attitude objective: "The resident should develop attitudes that encompass awareness of the importance of the physicians' own attitudes to aging, disability and death."[6]

Residency Training Program in Care of the Aging. The family practice curriculum in geriatrics should be a longitudinal experience. "A significant number of elderly patients should be a part of each resident's family practice panel of patients and should include the healthy, those with minor health problems, the chronically ill, the critically ill, the acutely ill, and the injured patient."[7] The setting for the training should include: the family practice am-

bulatory center, hospitals, home visits, and community resources, including nursing homes, retirement homes, and volunteer agencies.[8]

The teaching emphasis in the past has often been on the institutionalized older person, in the hospital or nursing home. Although only five percent of the over 65 population are in nursing homes, training in the care of the nursing home patient is an essential part of the resident's curriculum. We support the belief of others that a teaching nursing home can be a positive educational experience for the resident in regard to care and attitude toward the elderly.[9,10] The comprehensive geriatric curriculum for the resident should provide a balance including appropriate experience in the care of the older person whether ambulatory, in the acute care hospital setting, or in the nursing home, and an awareness of community resources which may at times offer an alternative to institutionalization.

In this paper we shall consider one element of this training program, namely the development and utilization of a teaching nursing home for family practice resident education. A subsequent paper will cover other aspects of the family practice resident's geriatric curriculum at the University of Oklahoma Tulsa Medical College.

The Role of the Nursing Home in the Care of the Aged. The term *nursing home,* as used herein, refers to the facility which is more correctly an *intermediate care facility* providing custodial care in contrast to the *skilled nursing facility* as defined by Medicare.

If only five percent of the population over 65 are in nursing homes, why should a major segment of the family practice resident curriculum be devoted to care of the individual in the nursing home? This five percent of the population represents over 1,000,000 individuals. The nursing home industry is the fastest growing segment of the health care field and to maintain our current level of services for the elderly would require opening a 100-bed nursing home every day until the year 2000.[11] There are now more nursing home beds in the United States than there are general medical and surgical beds.[12] In Oklahoma, there are 265 nursing homes representing 28,318 beds. In contrast, all hospitals in the state including general, federal, veterans, and mental hospitals total 155 institutions with 20,407 beds.

Because of the growing need, and the Medicaid reimbursement mechanism, there has been a tremendous growth of the proprietary, or private, for profit, nursing homes. An estimated 79% of nursing home patients are in proprietary nursing homes, 14% in voluntary nonprofit nursing homes, and 7% in government homes.[13] The level of nursing care and medical services in nursing homes varies widely from home to home. In general, geriatric care facilities have suffered from a lack of involvement and leadership, to the detriment of patient care and medical education.

The Teaching Nursing Home in Family Practice Residency Education. The affiliation of a family practice department with a nursing home is as essential to the training program as an affiliation with a general hospital. Such affiliation can be mutually beneficial to the medical education program and the nursing home. Impressive changes can be brought about in upgrading medical care, general nursing services, and educational attitudes when a residency training program becomes actively involved in medical leadership and is supportive of administration in overall improvement of patient care in the nursing home. The key to the success of such a program is the dedication of the department head, and faculty, to the concept that care of the aged is important, essential, and can be professionally rewarding. The faculty member assigned the responsibility for the nursing home teaching program must be a role model and medically competent, and must exhibit care and concern for the problems of the elderly.

The Family Practice Department of the University of Oklahoma Tulsa Medical College entered into a contract with a 105-bed nursing home in Tulsa whereby our faculty and residents are responsible for the medical care of most of the patients in the nursing home.

Our objective in developing such a teaching relationship is to develop a facility and a medical care program that will meet the same standards of excellence that we take for granted in the traditional teaching hospital. If we are to overcome the physician's current negative attitudes and stereotypes of the older person, it is important that training in the long-term care facility be in one that meets these same standards of excellence. It is our impression that the nursing home administrator has enthusiastically welcomed physician involvement and leadership in upgrading medical care. The interested and concerned physician who treats all patients with dignity has a positive impact on staff, family, and patient. Utilization of nursing homes in our residency education is not limited to one nursing home. Other nursing home sites are utilized for resident training in certain facets of patient care.

Benefits. The benefits of a teaching nursing home in medical education were well pointed out in a paper published by Dr Donald J. Welter describing the

Medical College of Georgia plan for education in long-term care in 1975.The patient benefits of this arrangement, only slightly modified from Dr Welter's paper, include:

1. Receiving care from skilled and motivated physicians.
2. Assurance that the latest medical measures and methods become available to the patient.
3. A built-in consultative staff is established within the nursing home.
4. The patients have a sense of satisfaction in knowing they contribute to medical education.

The benfits to the residents, as noted by Dr Welter, include:

1. An opportunity to function as primary care physicians in delivering health care to the older population.
2. The opportunity to observe the long-term effects of medication and treatment modalities.
3. To watch the natural history of disease.
4. To see the impact of long-term illness on the family unit.
5. To differentiate between acute care goals and long-term goals.
6. To realize the impact on chronic illness of multiple diseases.
7. To gain an understanding of the aging process.
8. The opportunity to direct the medical, and medically related team in the nursing home.
9. To learn that functional ability is the important ingredient of evaluation of the long-term care patient.
10. To appreciate nutritional and dental problems of the aged.
11. To recognize that sometimes "care" is more important than "cure."
12. To practice in a positively oriented nursing home and establish a standard of excellence for comparison with other long term cases.
13. To deal with death and dying.
14. To learn the role of social agencies in long-term care.

The teaching nursing home is particularly important in assistance of the resident in achieving the following objectives:

1. Acceptance of input by others, often less highly trained individuals who have intimate and valuable knowledge of individual patients, in aspects of care.
2. Recognition of the pitfalls of geriatric care such as polypharmacy, iatrogenic illness, overdependency, inappropriate institutionalization, nonrecognition of treatable illness, overtreatment, inappropriate use of high technology, and the unsupportive family.
3. Understanding common problems of the elderly and the difference in their presentation and/or management in older adults.
4. Developing the ability to communicate hope and empathy and to balance objectivity with human involvement.

Initial Considerations

While the need for a teaching nursing home is readily apparent, there are important considerations before a nursing home can be integrated into a residency training program.

A residency program should thoroughly evaluate a nursing home for cleanliness, orderliness, upkeep, and quality of patient care before integrating a nursing home into its training program. The residency program must be perceived as offering a needed service and not supplanting another physician. If another doctor is involved in the nursing home it is essential that he or she be involved in discussions before consumating any arrangements. The duties and responsibilities of both the medical training program and the nursing home should be well defined in a formal legal document.

Most states have strict guidelines for doctors providing care to nursing home residents and a training program must be scrupulous in meeting these. Key to any successful working relationship is the nursing home's administrator and head nurse. They must be comfortable with, and confident in, the care provided. They will be aware of possible problems with residents, federal guidelines, or other proposed arrangements. Communication among all parties must be uninhibited and on a regular basis. To facilitate this, one faculty member must be designated as the director or coordinator of the program. This person will serve as the liaison coordinating resident rotations, faculty interactions, and patient care.

Implementing the Program

Involving the residents with meaningful tasks and interactions with the patients not only will add to the residents' knowledge of medicine but may make them more willing to provide medical expertise to local nursing homes when they enter private practice. Special nursing home faculty rounds illustrating one particular medical skill, such as glaucoma screening or ileostomy care, have been quite successful. Educating the residents to state and federal requirements relating to nursing home care will better prepare them for private practice.

Health Maintenance Schedule

Doe, Johnny

Current Problems with Screening	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical					X							
Routine visits	X		X				X		X		X	
Screening lab (CBC, Ua, SMA-20)					X							
Check inguinal hernia	X						X					
Lanoxin level					X							
Influenza vaccine									X			

Fig 1. Individual care/evaluation plan.

One of our first activities was to develop recommendations for inclusion in the health screening and examinations of the nursing home patients. Recommended standards of care for periodic health screening evaluations of patients[14,15,16] were consulted. Such standards must be expanded when dealing with the high or special risk patient typical of the nursing home. One can usually demarcate two main patient populations within the nursing home setting: one is the self-caring and more independent individual, and the other is the more dependent, chronically ill or demented patient. These populations require marked differences in medical interactions, evaluation, and health care planning.

Systematic record keeping must be initiated.

July	
Patient	**Service**
Doe, Johnny	Physical, CBC, SMAC, lanoxin level
Gerry, Velda	Routine visit
Jones, J. J.	Routine visit
King, Walter	Routine visit, quinidine level
Kramer, Roger	Physical, CBC, SMAC, UA
Smith, Mildred	Routine visit, protime

Fig 2. Worksheet for routine procedures and tests.

Governmental regulations require that patients be seen bimonthly and have a yearly "complete" health evaluation. We completely evaluate each patient upon admission and develop a 12-month individual care/evaluation plan. We designed a flowsheet on which information is entered so as to complete this care/evaluation plan during the course of the bimonthly routine visits. Review and alterations of the flow sheets can occur at any time, but are routinely performed at the time of the patient's next yearly complete health evaluation. An example of a patient care flowsheet is shown in Figure 1. At the beginning of each month a computer printout, Figure 2, provides a master worksheet for all routine procedures and tests to be performed during the month.

Visits to the nursing home are made twice weekly at a regularly scheduled time by one of the faculty members assigned to the geriatric medicine rotation and by the family practice resident on that rotation. Making visits at a regularly scheduled time usually assures the availability of a nurse to make rounds with the faculty-resident team.

All telephone calls from the nursing home are managed by the family practice resident on geriatric medicine rotation in consultation, when necessary, with the assigned faculty member. Unscheduled visits to the nursing home are necessary and are managed by the faculty-resident team. Every effort is made to avoid sending patients from the nursing home to the emergency room for initial evaluation

of a problem without the patients first being seen by a member of the physician team.

Financial Aspects

Most medical education programs are a financial liability. The well organized and administered teaching nursing home service is not necessarily a financial liability.

In our teaching program we accept assignment on medicare and medicaid patients. The only income in our nursing home program, other than patient-generated fees, is from the contract to serve as the nursing home medical director. There are patient-care dollars generated from the hospitalized nursing home patients as well. All patients requiring hospitalization are admitted to the Family Practice inpatient service.

Professional Interaction

Residents. Each family practice resident, in the second year, rotates on a family practice service where the duties are diversified among several aspects of patient care, including nursing home care. Nursing home patients are seen on a priority basis. The first priority are those with an acute care need as determined by the nursing home staff, the faculty member assigned to the nursing home, or at the request of the patient's family. The second priority is participation in the continuing routine care of nursing home patients. This includes yearly physical examinations, glaucoma screening, rehabilitation assessments, and medication monitoring to minimize the number of drugs and drug interactions. Home visits to patients discharged from the nursing home are made on an "as needed" basis.

Nursing homes provide an excellent source of clinical syndromes that can be invaluable in a teaching program. The resident on service is given a list of patients with specific diseases. The resident is required to see these patients during the rotation. This amounts to a "check list" of pathology to which the resident is exposed, and is designed to give the resident direction for reading and learning more about these disease processes, including management and prognosis.

The resident becomes better able to distinguish medical conditions that are best handled in the nursing home versus the hospital, traditional home, or other sites. When nursing home patients need hospitalization they are admitted by the resident directly to the hospital family practice service. Because this resident is also a member of the family practice hospital service team and participates in daily morning rounds and night call, continuity of care of the nursing home patient is assured.

A large part of this rotation is directed at defining a role for the physician in training that is difficult to teach in a didactic atmosphere. That is the role of providing palliative, humane care of chronic diseases. This kind of teaching objective cannot be achieved fully in an acute care hospital. The resident making nursing home rounds sees various conditions, interacts with nursing home patients in their surroundings, and sees the family interactions and dynamics that enter into all decisions of the nursing home patient, family, and nursing staff. This involves various aspects of chronic care, palliative care, financial problems, and family interactions, as well as identification and decision making related to the dying process and death.

As another component of the nursing home teaching program, the resident gives lectures to the nurses and staff on commonly occurring problems of care, better assessment of particular problems, and drug interactions. All endeavors are designed to improve the communication of the family practice physician and the nursing home staff in caring for acute and chronic problems of nursing home patients.

Nursing Home Staff Nurses. A nursing home staff nurse (NHSN) accompanies the resident and faculty member on rounds. This allows precise, in-depth communication about specific problems, management decisions, and their implementation.

This interaction between NHSN and physician is imperative for several reasons. First, it allows more accurate communication to the family through the NHSN. This prevents unnecessary frustration and provides the family with better information on the prognosis and convalescence of their family member. Secondly, it gives the NHSN information for determining priority of patient needs and distinguishing between problems that must be seen immediately, on a routine basis, and problems that can be handled by phone. This is designed to achieve the best utilization of our health care resources. Finally, this interaction emphasizes the needs of those patients who are dying, including their family needs.

Benefits to Patients. Nursing home patients traditionally have received a panorama of medical care, dependent on the nursing home physician, the nursing home staff, and their desire to meet the needs of the nursing home population. This has often been unsatisfactory for all concerned, including the physician. The benefits of our program of care are multiple and encompass a truly team approach. These benefits are:

1. Continuity of care in the nursing home. This is

provided by family practice residents and faculty members.
2. Continuity of care for required hospitalizations. This is provided by the same residents and faculty members.
3. Appropriate medical attention. This is provided when needed with less diagnosis by telephone and less overall frustration for all concerned.
4. Improved nursing care. This is aided by continuing education of nursing home staff.
5. Defined responsibility for medical care. With the assignment of one faculty member as the program director, there is a defined responsibility in policies assuring delivery of high quality and compassionate care.
6. Improved communication. This involves professional staff, the patient, and the patient's family.

Overall, this system offers an environment for medical education directed at the family practice resident, the nursing home staff, and medical students who are also invited in making nursing home rounds during their family practice rotation. It provides high quality of care and continuity of care if hospitalization is required. Finally it provides a comprehensive, in-depth team approach to health care for the geriatric population.

Summary

A teaching nursing home can be extremely valuable to a family practice residency program. It can provide a mechanism to promote quality health care for this large and expanding segment of our population. Properly organized and administered, it can operate smoothly and not be a financial liability to the department. The professional interactions can make it educationally beneficial for medical students, nursing staff, and residents in training. Not only are educational requirements met by this mechanism, but a positive attitude for geriatric health care delivery can be instilled into medical students, residents, and allied health care providers.

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Orthopedic Management of Rheumatoid Disease of the Upper Limb

GHAZI M. RAYAN, MD

A team approach is required in the management of rheumatoid patients, with interactions among patient, rheumatologist, surgeon, and therapist. Reconstructive upper extremity and hand surgery is an effective component in the overall management of these patients; it relieves pain, corrects deformity, and improves hand function. It also improves the patient's quality of life.

The joint synovium is the main target in rheumatoid arthritis. Extra-articular involvement in the upper limb occurs most often in the skin and subcutaneous tissue in the form of rheumatoid nodules, especially in the extensor surface. These are uniformly encountered in patients with strong seropositivity, and their presence indicates an aggressive and severe form of rheumatoid arthritis. Peripheral nerves may be involved in compression neuropathy, especially the median nerve at the wrist and posterior interosseous nerve at the elbow. Flexor tenosynovitis may produce trigger finger. Tendon rupture may occur, especially the extensor tendons. Rarely, peripheral vessels may be involved, with vasculitis or occlusive disease especially in the digital arteries leading to cutaneous ulcers or ischemic lesions.

Immune mechanisms are implicated in the pathogenesis of the disease. A chain of events is triggered by an antigen that stimulates T and B lymphocytes in a genetically susceptible individual (with HLA-DR4 antigens) to produce antibodies; antigen plus antibody form a complex. The immune complexes (mainly IgM-RF, IgG-RF) activate the complement pathways, and phagocytosis of the immune complexes leads to lysosomal enzymes release. Synovitis, which has exudative and chronic inflammatory phases, then develops; the inflammatory response (mononuclear infiltration) may lead to synovial proliferation, pannus formation, and articular cartilage destruction.

The classic patient is a woman less than 40 years of age with an insidious onset of constitutional manifestations that occur in remissions and exacerbations associated with multiple and symmetrical joint involvement. Most frequently involved are the digital joints of the hand, followed by the wrist and later the elbow and shoulder joints. As the disease progresses, deformities and ankylosis develop.

I. Nonoperative Management

Treating a rheumatoid patient requires a team approach with interactions among rheumatologist, surgeon, therapist, and social worker. In the early stages of the disease, the treatment is usually nonoperative. The orthopedist must be involved in the early management of the rheumatoid patient in order to supervise the therapy program and follow the progress of the deformity.

► ***Patient's Education.*** This, it should be em-

phasized, includes not only informing patients about their disease, but also about joint protection and its importance in delaying the onset and minimizing the magnitude of joint deformities, especially in the hands.

► ***Hand Therapy.*** A program of therapy must be instituted with the supervision of a therapist. Rest and heat therapy are indicated during relapses. Exercises are prescribed in order to preserve joint motion and maintain muscle strength, functional joint position, and limb function. Exercises are indicated during remissions as well as during relapses. The joint should be put through the functional range of motion daily. Splinting is a very useful adjunct, especially using night splints that maintain the wrist in neutral position and the metacarpophalangeal joints in a radially deviated position.

► ***Intra-articular Injections.*** Intra-articular steroid injections can be used occasionally, and may provide significant symptomatic relief. However, repeated local steroid injections at short intervals may accelerate cartilage destruction. Recently, intra-articular radionuclide injection has been advocated as a method of radiation synovectomy.

► ***Anti-inflammatory Medications.*** The response to this type of treatment is variable and unpredictable, but when tailored to meet the needs of the patient it can be very effective. Drug therapy includes both the rapidly acting nonsteroidal anti-inflammatory agents (salicylates, pyrazoles, indoles, etc) used to relieve pain and minimize the patient's symptoms, and the slow-acting antirheumatic drugs (steroids, ACTH, cytotoxic drugs, gold, penicillamine, and antimalarials) that have the potential for suppressing or inducing a remission of the basic disease process, although they are potentially toxic. Patients with progressive or persistently active disease should not be treated with nonsteroidal anti-inflammatory drugs only; they should receive a combination of nonsteroidal drugs and one of the slow-acting agents. This is necessary to minimize the disease process and joint deterioration. On the other hand, patients with end-stage joint disease with minimal inflammatory synovitis should be spared the needless side effects of slow-acting agents. Because of the potential for serious side effects, the slow-acting drugs are usually prescribed and monitored by the rheumatologist.

II. Operative Management

When the disease progresses to the intermediate and late stages, the orthopedist becomes more involved in the management of the rheumatoid patient. This management may include a variety of surgical procedures performed on the shoulder, elbow, wrist, and digital joints of the hand.

► ***Synovectomy.*** Permanent cure is not to be expected following synovectomy; pain relief and decrease of inflammatory process are the major benefits of this procedure. Synovectomy may be in the form of (a) bursectomy, (b) tenosynovectomy, or (c) joint synovectomy. In general, synovectomy is indicated when the synovitis is persistent, the patient does not respond to nonoperative treatment, and drug-induced remission cannot be obtained during six months of treatment.

Bursectomy is performed in conjunction with other reconstructive procedures (eg, subacromial bursectomy or olecranon bursectomy during shoulder or elbow reconstruction, respectively).

Tenosynovectomy, especially extensor tenosynovectomy, has been shown to be an effective prophylactic measure against tendon rupture, a common complication of extensor tenosynovitis. If one tendon ruptures, other tendons usually follow; therefore, tenosynovectomy should be done immediately to prevent other tendon ruptures.

Joint synovectomy, such as shoulder, elbow, wrist, and digital joint synovectomy, is indicated when painful proliferative synovitis does not respond to nonoperative treatment for at least six months in the presence of minimal radiographic involvement. Joint synovectomy does not change the course of the disease, but it slows the progression of joint destruction and deformity.

► ***Arthroplasty.*** Dramatic advances in joint arthorplasty have been made in the last two decades. Arthroplasty to preserve motion may be used in the form of (a) excision, (b) implant, or (c) total joint arthroplasty. It is indicated in advanced disease when pain, ankylosis, joint deformity, or joint destruction interferes with the hand function.

Due to the advances in joint replacement and the instability that follows excisional arthroplasty, this procedure is not as popular as it used to be. It has been described for several joints, but most often for the wrist (proximal row carpectomy) and carpometacarpal joints of the thumb; in the latter, excision of the trapezium can be done either alone or followed by interposition of a tendon "anchovy."

Implant arthroplasty using flexible silicone is a very satisfactory method of treating advanced rheumatoid arthritis of the digital joints and is an important adjunct to reconstructive surgery, especially of the metacarpophalangeal joints. It can be used for interphalangeal joints and for the wrist joint



Fig 1. Severe ulnar drift and volar dislocation at the metacarpophalangeal joints of the right hand of a patient with rheumatoid disease.

in a selected group of patients. Flexible implants provide dynamic spacers that act as interpositional material for resection arthroplasty.

Restoration of normal anatomy by total joint arthroplasty is no longer in its infancy. Improvement in prosthetic design has increased the success rate, and satisfactory results have been reported following both total shoulder and total elbow arthroplasties. Dramatic relief of pain and improvement of function are possible for a period of time depending upon the age and demands of the patient. Complications may result following arthroplasty, namely infection and mechanical failure, but these can be minimized by careful attention to technique and postoperative rehabilitation.

► ***Arthrodesis.*** Surgical fusion of a joint is a permanent solution to the problem of pain and instability as well as correction of joint deformity. Arthrodesis is the most satisfactory method for relieving pain, obtaining stability, and improving hand function in the severely involved rheumatoid wrist joint. Arthrodesis of the proximal interphalangeal joint can be done in combination with metacarpophalangeal joint implant arthroplasty when fixed deformities of these joints are present.

► ***Reconstructive Tendon Surgery.*** Tendon rupture in rheumatoid disease may be attritional, due to friction against a bony prominence, or a result of direct tendon invasion by proliferative synovitis. It is very common in the extensor tendons in the wrist area, especially the extensor pollicis longus and extensor digitorum communis of the ring and little fin-

Figs 2 and 3. Three months following resection and silastic implant arthroplasty plus soft tissue reconstruction of the metacarpophalangeal joints.





gers. Tenosynovectomy should be combined with reconstructive tendon surgery, which may be in the form of (a) tendon repair, (b) tendon graft, (c) adjacent tendon anastomosis, or (d) tendon transfer. Extensor indicis properious transfer is often done and provides a good motor.

▶ ***Reconstructive soft tissue procedures.*** These are of great value, particularly in correcting rheumatoid deformities of the wrist and hand.

Dorsal ulnar head dislocation, ulnar carpal translocation, supination of the carpus, volar subluxation of the carpus, and radial deviation of the carpus and metacarpal bones are deformities that can be corrected or minimized in the early stages of the disease by appropriate ligament reconstruction or tendon transfers to balance the forces around the wrist (an example is extensor carpi radialis longus transfer to the extensor carpi ulnaris).

Ulnar drift deformity and volar subluxation at the metacarpophalangeal joints, swan neck, or boutonniere deformities at the proximal interphalangeal joints and the various thumb collapse deformities (thumb swan neck, thumb boutonniere, and rheumatoid gamekeeper's thumb) can be corrected in the early stages by soft tissue reconstruction. In the later stages, when joint destruction is present, soft tissue reconstruction can be utilized in combination with other procedures such as implant arthroplasties. Soft tissue reconstruction may be in the form of (a) releasing tight intrinsic muscles and ligaments, (b) imbricating and/or advancing stretched attenuated ligaments, (c) centralizing extensor tendons, and (d) cross intrinsic transfer, especially in early cases and in juvenile rheumatoid arthritic deformities.

▶ ***Other Procedures.*** Resection of bones, such as the distal ulna, proximal radius, and distal clavicle, and anterior acromioplasty are usually performed in combination with other procedures such as synovectomies, arthrodesis, and arthroplasties. Silastic ulnar and radial head implants can be used occasionally following excision of these bones, although their use is somewhat controversial. Peripheral nerve surgery (such as releasing carpal tunnel syndrome in early rheumatoid disease of the wrist) must be done in combination with flexor tenosynovectomy. Releasing the proximal flexor tendon pulley can correct a trigger finger. Gangrene of the digits secondary to occulsive disease of the digital arteries can be managed only by amputation.

Reconstructive surgery of the upper extremity is a very effective component in the overall management of patients with rheumatoid disease. It relieves pain, corrects deformities, and improves the hand and upper limb function as well as the quality of the patients' lives.

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Coming soon . . .

Among the papers being considered for publication in April and May are an epidemiologic study of prostate cancer in Oklahoma, a report on the hormonal response of metastatic prostatic carcinoma, a survey of trends in pregnancies among Oklahoma teenagers, and a review of 48 cases if diplopia. Also being reviewed is a special story about emergency medical service at the 1983 Conner Correction Center riot.

News from the Oklahoma State Department of Health

Child Abuse Prevention

In 1983, almost 15,000 cases of child abuse in Oklahoma were reported to the Department of Human Services (DHS). Six thousand of those reports were confirmed as actual abuse or neglect.

With these statistics in mind, the Oklahoma legislature enacted the Child Abuse Prevention Act in the spring of 1984. The act created the Office of Child Abuse Prevention (OCAP) within the Oklahoma State Department of Health.

As required by the act, the office is responsible for developing a comprehensive state plan for establishing, coordinating, and funding child abuse prevention programs. The plan will include specific proposals for the efficient use of existing resources across the state and will identify gaps in services.

An interagency child abuse prevention task force, consisting of thirteen representatives from several state agencies, has been appointed by the Oklahoma Commission on Children and Youth to aid OCAP in this endeavor.

In developing the state plan, the task force will use statistical documentation — provided by task forces at the district level — of physical, sexual, and emotional abuse in particular geographic areas, and descriptions of existing programs serving affected families.

OCAP will also be responsible for approval and administration of state-funded child abuse prevention grant projects, as well as providing in-service training for professionals who deal with child abuse cases.

For more information about this program, contact Terri Gallmeier, PhD, OCAP director, (405) 271-4477. □

DISEASE	December 1984	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	1	8	13	23
CAMPYLOBACTER INFECTIONS	25	211	210	—
ENCEPHALITIS, INFECTIOUS	0	19	37	29
GIARDIA INFECTIONS	47	292	271	—
GONORRHEA (Use ODH Form 228)	1020	13088	15230	17611
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	26	201	175	—
HEPATITIS A	67	495	832	506
HEPATITIS B	20	185	354	271
HEPATITIS, NON-A NON-B	4	52	53	—
HEPATITIS UNSPECIFIED	13	103	211	218
MEASLES (RUBEOLA)	0	8	1	147
MENINGITIS, ASEPTIC	7	120	367	185
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	3	46	73	64
MENINGOCOCCAL INFECTIONS	2	28	37	34
PERTUSSIS	2	243	348	111
RABIES (Animal)	6	104	108	228
ROCKY MOUNTAIN SPOTTED FEVER	0	115	217	105
RUBELLA	0	0	1	2
SALMONELLA INFECTIONS	53	415	603	450
SHIGELLA INFECTIONS	19	214	241	309
SYPHILIS (Use ODH Form 228)	16	198	211	162
TETANUS	0	2	0	0
TUBERCULOSIS	24	222	277	325
TULAREMIA	2	22	35	28
TYPHOID FEVER	0	4	3	0

Diseases of Low Frequency	Total to Date This Year
ACQUIRED IMMUNE DEFICIENCY SYNDROME	11
BRUCELLOSIS	6
LEGIONNAIRES DISEASE	19
MALARIA	9
REYE SYNDROME	15
TOXIC SHOCK SYNDROME	18
RABIES	
CHOCTAW	SKUNK 1
CRAIG	SKUNK 1
DELAWARE	SKUNK 1
WASHITA	SKUNK 1

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JCAH to include hospice programs in tailored surveys

The Board of Commissioners of the Joint Commission on Accreditation of Hospitals (JCAH) voted at its December 1984 meeting to end the current moratorium exempting hospice programs from JCAH's tailored survey process. This decision will become effective for accreditation decision purposes on July 1, 1985.

The moratorium has allowed hospitals, psychiatric facilities, and long-term care facilities with hospice programs the option of not having their hospice programs surveyed according to standards specific to hospice care. The moratorium was originally adopted to allow facilities with hospice programs time to adapt to JCAH's hospice standards during the first year of hospice accreditation activities.

As part of its tailored survey process, the JCAH provides that all facilities surveyed by the JCAH must meet standards specifically related to each of the services they provide. For example, a general hospital that provides long-term care services would be surveyed under the *Accreditation Manual for Hospitals* as well as under Appendix A of the *Long Term Care Standards Manual*. In addition, under the tailored survey process, the composition of the survey team is determined according to the type of services the facility offers, and a single accreditation decision is made for the entire facility. The removal of the moratorium assures the use of appropriate standards and surveyors in the review of hospice programs.

The current status of JCAH-accredited facilities that have hospice programs will not be affected by the lifting of the moratorium for hospices. During their next accreditation surveys, hospitals, long-term care facilities, and psychiatric facilities that offer hospice services will be asked to meet standards in Appendix A of The *Hospice Standards Manual (HSM)* as part of their facility's overall review.

The JCAH, formed in 1951, is a private, not-for-profit, voluntary organization, which conducts programs to encourage members of the health professions, hospitals, and other health-related facilities and services to promote high quality care. □

Physician Recovery Committee on the road in Oklahoma

A presentation on the OSMA's Physician Recovery Program is now available to county medical societies, hospital medical staffs, and auxiliary groups.

Ted Clemens, MD, chairman of the Physician Recovery Committee, announced the acquisition of two films dealing with the problem of the impaired physician.

"Our Brother's Keeper" dramatically depicts the impaired physician's denial and resulting relationships with family, colleagues, and friends.

"Intervention: Rescue from Destruction" presents case studies in actual interventions.

Physician Recovery Committee Program Director Darrel Smith, MD, made the committee's first presentation in January at the invitation of the Garfield County Medical Society (GCMS). The program was attended by nearly 100 physicians and their spouses.

Following the presentation, GCMS President D. C. Karns, MD, wrote Dr Smith:

"Your presentation on the topic of impaired physicians was so warmly received that I have had many individuals tell me about it. I think it is a great idea for the OSMA to establish your committee and take the responsibility for caring for our own.

"Thank you so much for the time you are spending on this project. I would recommend this program be presented to every society in the state. Wives should also be invited to attend."

Those interested in the presentation should contact the OSMA. □

— OFFICIAL CALL —

The House of Delegates of the

OKLAHOMA STATE MEDICAL ASSOCIATION

Will Convene
Its

79th ANNUAL MEETING

at

SHERATON CENTURY CENTER
and
SKIRVIN PLAZA HOTEL
in
OKLAHOMA CITY

May 1 through May 4

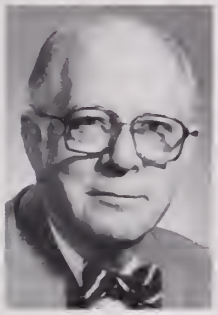
Opening Session: 12:30 p.m., Thursday, May 2
Closing Session: 12:30 p.m., Saturday, May 4

All members, delegates, alternate delegates, and county society officials are encouraged and urged to attend. Business to be brought before the House must be submitted by April 2, 1985. All items of business will be debated in open reference committee hearings on May 3, 1985.

Any member of the association may submit business for consideration by the House of Delegates. For help in preparing information for submission, please contact the OSMA headquarters, 601 Northwest Expressway, Oklahoma City, Oklahoma 73118 or call 405-843-9571 or 1-800-522-9452.

Larry Long, MD
Speaker of the House

AMA president-elect to attend OSMA's Annual Meeting in OKC



H. L. Rogers, Jr., MD

Harrison L. Rogers, Jr., MD, president-elect of the American Medical Association (AMA), will deliver the keynote address at the opening session of the Oklahoma State Medical Society House of Delegates at the 79th Annual Meeting of the OSMA, May 2-4 in Oklahoma City.

Dr Rogers, an Atlanta surgeon, will assume the presidency of the AMA one month after his visit to Oklahoma.

Three former Oklahoma physicians also will be coming to the state for the Annual Meeting.

University of Oklahoma College of Medicine graduates Edward N. Brandt, Jr., MD, former assistant secretary for health at the Department of Human Services; Everett Rhoades, MD, director of the Indian Health Service; and J. Raymond Hinshaw, MD, chief of surgery, Rochester (NY) General Hospital will participate in the Scientific Program.

For information regarding the OSMA Annual Meeting, please call (405) 843-9571 or (800) 522-9452. □

Oklahoma County Medical sponsors television series

"Medicine and You," a television series for the layman, is being aired Sunday mornings at 10:30 AM on station KTVY, Channel 4, in Oklahoma City. The series is cosponsored by the Oklahoma County Medical Society (OCMS), the Metropolitan Library System's Community Workshop, and KTVY Television. The theme of the series is "Knowledge dispels fear."

Viewers should check their weekly TV schedules for possible time changes. Upcoming programs are as follows:

Headaches (Mar 10) with Ellen Hope, MD, and Philip J. Murphy, PhD, representing the fields of neurology and clinical psychology.

Tinnitus (Mar 17) with Robert Keim, MD; R. Murali Krishna, MD; and Polly Patrick, MS, representing the fields of otolaryngology, psychiatry, and clinical audiology.

Nuclear Cardiology (Mar 24) with William H. Oehlert, MD, representing the field of cardiology.

Foot Disorders (Mar 31) with John S. Muchmore,

CALL FOR RESOLUTIONS

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting will be held May 1-4, 1985, at the Sheraton Century Center and Skirvin Plaza hotels in Oklahoma City.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 NW Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

SUBMIT YOUR RESOLUTIONS
ON OR BEFORE
APRIL 2, 1985

ACP announces its *Guide for Adult Immunization*

The American College of Physicians (ACP) has announced the publication of a handbook that will help physicians meet the vaccination needs of adult patients.

"The routine immunization of children has virtually eliminated many vaccine-preventable diseases in the United States," said ACP Executive Vice President Robert H. Moser, MD, FACP, at a January 16 news conference. "Unfortunately," he continued, "this does not guarantee the disappearance of diseases like tetanus and rubella, and many of the cases we still see are among adults."

According to the ACP's *Guide for Adult Immunization*, 88% of hepatitis B cases reported with known ages in 1982 occurred in people older than 20. An estimated 20% of young adults are not immune and may be susceptible to measles, a disease that leads to greater complications for adults than for children. And although the number of cases of tetanus has dropped sharply in the United States, the ACP notes that of the 75-plus cases per year that do occur, virtually all are in adults who have not been properly immunized.

"Childhood immunization programs have given us a goal to mimic," Dr Moser said, adding that "Immunization isn't just kid stuff. There are safe, effective vaccines against a number of diseases that we see in adult patients. We want every physician to get in the habit of routinely considering what vaccines would protect patients against these diseases."

The ACP's *Guide to Adult Immunization* was written to help physicians give optimal care by preventing — rather than just treating — disease. The guide discusses clinical issues related to specific vaccines and gives recommendations for immunizing adults based on age, health and special considerations such as lifestyle, occupation and environment.

"These conditions determine the infectious diseases a patient is at greatest risk of contracting, and thus should be immunized against," said Theodore Eickhoff, MD, FACP, chairman of the committee that developed the guide. For example, people with diabetes or cancer, pregnant women, travelers and health care personnel all have special vaccine needs. The ACP's guide is organized according to these categories as well as by vaccines so a physician can quickly identify the needs of each patient.

The ACP's guide includes a reference table summarizing the College's recommendations and an appendix of currently licensed vaccines listed with their manufacturers and license numbers, date of license, and prices as of mid-1984. Several tables — such as a summary outline of vaccines to be considered for specific groups — are available for quick reference. Of particular use to the practicing physician is a prototype immunization history form than can be reproduced for use in patient files. □

Television series (continued)

MD, and Stephen Tkach, MD, representing the fields of endocrinology and orthopedic surgery.

Hysterectomies (April 7) with Mary F. Block, MD, and Audrey J. McMaster, MD, representing the field of obstetrics and gynecology.

Immunizations (April 14) with William H. Downham, Jr., MD, and Mary Anne McCaffree, MD, representing the fields of infectious disease and pediatrics.

Skin Cancer (April 21) with Raymond L. Cornelison, MD; W. Edward Dalton, MD; and Lloyd A. Owens, MD, representing the fields of dermatology and plastic surgery.

Lens Implants (April 28) with Hal D. Balyeat, MD, representing the field of ophthalmology. □

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Cancer specialists want new DRG for research costs

Clinical research is threatened by Medicare's new diagnosis-related group (DRG) reimbursement system for hospitals, according to a report in the *Journal of the American Medical Association (JAMA*, Feb 1). John W. Yarbro, MD, PhD, and Lee E. Mortenson, MS, of the Association of Community Cancer Centers, Rockville, Md, believe that a DRG for research should be created.

Before the DRG system was implemented, research grants paid for data collection and analysis, experimental drugs, and other expenses of clinical trials, but the patient-care costs were paid by the patient or by the insurance carrier. Medicare will no longer cover costs of extra tests ordered for patients in these trials, and studies have shown substantial losses are incurred by hospitals for these patients.

"Under the DRG system, the hospital receives a fee fixed by diagnosis, and administrators are likely to show little enthusiasm for anything that increases the cost of care," the authors say. They conclude that this financial deterrent must be removed if research is to be preserved.

Carolyne K. Davis, PhD, head of the Health Care Financing Administration (HCFA), disagrees. In her editorial in the same issue she points out that under law, HCFA cannot support the proposal for creating a 471st DRG for research because Medicare was never intended to cover research costs. Davis says most of the advocates for the proposal are primarily concerned about cancer research, but neither she nor Margaret Heckler, Secretary of the Department of Health and Human Services, believes this research will suffer.

The prospective payment system allows exemptions for hospitals recognized by the National Cancer Institute as either comprehensive cancer centers or clinical cancer research centers, Davis Says. For nonexempt hospitals with patients in cancer treatment or research programs, she suggests that DRG payments will be less than hospital costs for some patients, but more for others. "We trust that a well-managed hospital operating under the prospective payment system would be able to order its priorities to enable continuance of its clinical cancer research program . . . hospitals will likely trim away only those programs that they cannot manage efficiently or in which they have no overriding interest." □

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ACSH and Ada lawsuit focus on smokeless tobacco

In Ada the mother of a smokeless tobacco user who died of oral cancer at the age of 19 recently filed a $37 million lawsuit against the U.S. Tobacco Company, manufacturer of the brand of smokeless tobacco that her son used. The suit alleges that the U.S. Tobacco Company, on the basis of available evidence that smokeless tobacco is carcinogenic, should have warned consumers of the dangers.

The woman filing the suit says that her son, who underwent radical surgery before he died, losing large portions of his tongue and jaw, believed that it was safe to use snuff since the product carried no warning label like the one found on cigarette packages.

The Ada case is part of the growing controversy over smokeless tobacco reported in the January/February issue of *ACSH News & Views,* published by the American Council on Science and Health. The use of smokeless tobacco is a serious and growing threat to the health of Americans, particularly young people, according to the article.

"Over the past decade or so, the smokeless tobacco habit — and the hazards that go with it — have moved into mainstream America and into our colleges and junior and senior high schools," says ACSH Research Associate Cathy Becker Popescu, author of the article.

An estimated 22 million Americans currently use snuff or chewing tobacco, and sales of smokeless tobacco products have increased approximately 11% per year since 1974, the ACSH reports.

Studies from various parts of the country indicate that 7% to 25% of young males use smokeless tobacco. As many as one-third of the members of high school varsity football and baseball teams do so, according to one survey.

"Although dipping snuff or chewing tobacco is not as deadly as smoking cigarettes, it is still a serious hazard," says ACSH Executive Director Dr Elizabeth M. Whelan. "It can lead to gum inflammation; erosion of the teeth; hyperkeratosis (abnormal growth of cells lining the mouth); leukoplakia (a precancerous condition) at the site where the tobacco is held in the mouth; and most frighteningly, oral cancer.

"Oral cancer has a relatively high death rate," Dr Whelan says, "because it tends to spread quickly to other parts of the body. And unless the disease is detected early, the treatment for oral cancer is generally quite radical and disfiguring."

"Many young people may be misled into thinking that smokeless tobacco is harmless because there are no warning labels on smokeless tobacco packages," Popescu reports. "They may also be falsely reassured by the fact that smokeless tobacco is advertised on television, while other tobacco products are not. We would like to see warning labels required on smokeless tobacco products and in all advertisements for those products."

The American Council on Science and Health is an independent, nonprofit consumer education organization promoting scientifically balanced evaluations of food, chemicals, the environment, and health.

Copies of *ACSH News & Views* can be obtained from ACSH, 47 Maple Street, Summit, NJ 07901. □

Report on prescription drug use says total still below '73

Americans spent more than $17 billion on prescription drugs in 1982, according to a Food and Drug Administration (FDA) report in the *Journal of the American Medical Association (JAMA,* Jan 18).

Carlene Baum, PhD, and colleagues report that total outpatient drug use increased 5% from 1981 to 1982 and 28% from 1971 to 1982. Hydrochlorothiazide, an antihypertensive medication, was the most frequently dispensed drug chemical and was contained in more than 5% of all 1982 drug prescriptions, the researchers say. They add that 16 major therapeutic classes accounted for about 80% of drugstore and hospital expenditures for ethical pharmaceuticals (prescription drugs and those over-the-counter products that are promoted to health professionals).

Both prescriptions and population size have increased 12% since 1971, with considerable variation in the number of prescriptions during the intervening years, they report. "Total prescriptions decreased annually from the peak 1973 level through 1979 and increased during 1980 through 1982." Still, the number of prescriptions in 1982 was about 23 million below the peak 1973 level.

The decrease in drug use during the 1970s may be related to the general concerns prevalent within the medical community about overprescribing drugs, particularly psycotropics, and about the safety of certain drugs. The more recent increase in use may be related to the increasing proportion of elderly mem-

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In Memoriam

1984

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Charles H. Cooke, MD	*March 23*
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Leon C. Freed, MD	*June 12*
William D. Bolene, MD	*June 18*
Lee K. Emenhiser, MD	*June 26*
Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Seth D. Revere, MD	*October 6*
Oliver H. Patterson, MD	*October 13*
Emmett H. Lindley, MD	*November 8*
Clark H. Hall, MD	*December 5*
Henry G. Bennett, Jr, MD	*December 18*
Adoniram V. Bowen, MD	*December 29*

Prescription drug use (continued)

bers of society. "In 1982, only 8% of the population were aged 70 years and older, yet this age group accounted for 22% of all drugs."

The ten top drug chemicals *prescribed* in 1982 were: hydrochlorothiazide, 78.2 million prescriptions; codeine, 65.8 million; oral contraceptives 56.7; erythromycin (antibiotics) 34.5; propranolol (antiarrhythmics) 32.3; triamterene (antihypertensives) 31.2; potassium, 27.8; diazepam (psychotropic) 27.7; amoxicillin (oral penicillin) 26.2; and digoxin (digitalis) 25.6.

The ten top prescription products based on *drugstore acquisition costs* were: Tagamet, Inderal, Valium, Dyazide, Motrin, Keflex, Aldomet, Naprosyn, Clinoril, and Lasix.

"Drug products may be ranked quite differently by different measures," the researchers comment. "For example, Tagamet was the number one drug in dollar sales but ranked seventh in prescription volume for retail pharmacies. Dyazide was the number one drug based on number of prescriptions, but pharmacies spent more for Tagamet, Inderal and Valium than Dyazide." □

Book Reviews

Coping with the Biomedical Literature. A Primer for the Scientist and the Clinician. Edited by Kenneth S. Warren. New York: Praeger Publishers, 1981. Pp 233, $26.95 (cloth), $13.95 (paper).

In the introduction Kenneth S. Warren states, "In the past, approaches to the literature were taught on an apprenticeship basis, and the student simply went to a library to obtain books and journals from a librarian. With inundation threatening from the exponential growth of the literature and modern technology (that is, computers), information scientists have been thrown into the breach. The complexity of the information systems has increased, therefore, to a point at which a statement of elementary principles governing their efficient use has become necessary."

The editor has assembled a group of experts to address this problem. The book is divided into four sections concerned with the structure, production, utilization, and sources of biomedical information. In Part I, "The Structure of the Information System," Professor Derek de Sola Price of the History of Science Department at Yale University describes the basic structure and exponential growth of the literature. Dr Warren, the editor, demonstrates how the literature clusters both quantitatively and qualitatively and explains how these clusters can not only be identified but used. William Goffman, who was then dean of the School of Library Sciences at Case Western Reserve University, describes an ecological model of the literatures, showing how the interrelationships and feedback among the different phases of the system can be used to maximize information retrieval. This portion furnishes a fundamental understanding of the information system that will enable producers and users to work more efficiently.

The book presents a clear view of the problem, as demonstrated by the facts that literature has experienced a ten-fold increase about every fifty years during the past three centuries and that today there are more than 20,000 journals in biology and medicine.

Part II, "Producing Biomedical Information," opens with an interesting essay by Professor Eli Chernin, Harvard School of Public Health, journal editor and teacher of a course in writing for both graduate and medical students. This is followed by chapters by two editors providing an overview of journals and of review articles and books.

The third section, on utilization, begins with a chapter by Oscar Ratnoff, Case Western Reserve University, on his personal system of information gathering. This is followed by chapters dealing with requirements for scientific proof and for clinical application.

The final section, "Sources of Biomedical Information," includes a chapter on the National Library of Medicine by its director, Martin M. Cummings; one by Eugene Garfield of the Institute for Scientific Information, providing a comprehensive description of the institute's available services; and a chapter by William K. Beatty, professor of medical bibliography at Northwestern University, which serves as an excellent guide to the use of libraries.

Although each of the contributors deals with a different topic and method of coping with the information system, the underlying thread suggested by each of them is the principle of selectivity.

This book not only provides interesting reading but serves as an excellent reference for one concerned with the biomedical literature and how best to utilize it.

Harris D. Riley, Jr, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center
Oklahoma City

Native American Art at Philbrook. By Rennard Strickland. Preface by Jesse G. Wright, Jr, and Introduction by John A. Mahey. Tulsa: Philbrook Art Center, 1980; distributed by University of Oklahoma Press. Pp 96, illustrated. Price not given.

This book describes the Philbrook Native American Art exhibit that was on view August 19 through September 21, 1980. It catalogs 571 objects which were on exhibit, representing only a small portion of the 8000 items stored in the museum's collection. Almost all North American Indian tribes are represented, particularly those of the Central and Southwestern United States. The collection ranges from items of decorated clothing, implements, jewelry, pottery, baskets, and weaving to painting and sculpture. Many of the items are pictured in black and white photographs. The photographs inadequately show the full color and beauty of many of the objects. The basket and pottery collections are especially fine and reflect superb craftsmanship and artistic skills.

The book describes the history of the Philbrook collection and its contributors. Because the museum has evolved over the years from a "native" art to a

"general" art museum, the space for the native art collection has been limited, and many items have not been displayed. A limited number of items are intermittently exhibited and well worth the museum-goer's time.

The book also traces the evolution of contemporary Indian painting since World War II. Since 1946 the Philbrook has had an annual show that has encouraged Indian artists and increased the public's awareness and appreciation of Native American art. Traditional Indian painting sought to preserve stories, customs, and ideals of the culture and has an abstract, almost mystical quality. Although Indian painting grows less traditional with each generation, it continues to portray the world in a unique style. It is certainly a different view of the world than what we generally think of as "Western" art portrayed by non-Indian artists.

We in Oklahoma are fortunate to have the Philbrook in our midst to house such a treasury and to continue to encourage the creativity of Native American artists.

Harriet W. Coussons, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center
Oklahoma City

Atlas of Mammography: Histologic & Mammographic Correlations. By John E. Martin, MD. Baltimore: The Williams & Wilkins Company, 1982. Pp 355 with 346 illustrations. Price not given.

Atlas of Mammography: Histologic and Mammographic Correlations is a new addition to the Golden Series of Diagnostic Radiology. The author, Dr John Martin, was one of the first radiologists to use the xeromammography technique and is one of the experts in this approach. It is not surprising therefore, that this discussion of mammography is essentially a presentation of xeromammography.

The book is organized into twenty-seven chapters covering a wide range of issues pertinent to breast diseases. The radiation controversy is briefly discussed in the opening chapter, followed by an equally brief chapter on screening.

Chapter 3, "Indications for Mammography," is a concise discussion of which patients can be helped by mammography. The list of indications is grouped into three categories: screening, clinical, and high risk. This is an excellent chapter which clinicians dealing with breast diseases will find useful, and it should be required reading for all third- and fourth-year medical students.

Chapter 4, "How to Approach a Mammogram," is concerned with the importance of good technique and basic problems in interpretation. As such, it is written primarily for the radiologist and substantiates the author's contention that "it behooves the radiologist to take an active interest in mammography — or none at all."

Remaining chapters are largely devoted to a histologic and mammographic correlation of malignant and benign diseases of the breast. The material is generously illustrated with a careful selection of xeromammograms. Reproduction is excellent. References, although well chosen, are not as extensive as one would expect for a section of the Golden Series, which is considerd encyclopedic.

One of the most important developments in mammography during the past decade is the reduction in radiation exposure made possible through the use of intensifying screens. This new technology permits a reduction in exposure considerably below (by a magnitude of seven) that achieved through the use of filtration in xeromammography. This technology is merely alluded to. In a xeromammography text such an omission would be acceptable. In a book discussing the broader subject of mammography (as implied by the title), the important issue of reduced exposure deserves greater emphasis and, as a minimum, could have been handled simply by a more extensive list of references dealing with the subject. This is the book's only drawback.

Overall, this book is well written and clear, reflecting the direct straight forward style of the author. It is a welcome addition and should be a part of the library of all individuals concerned with the diagnosis and management of diseases of the breast.

JoAnn D. Haberman, MD
Radiology Sciences
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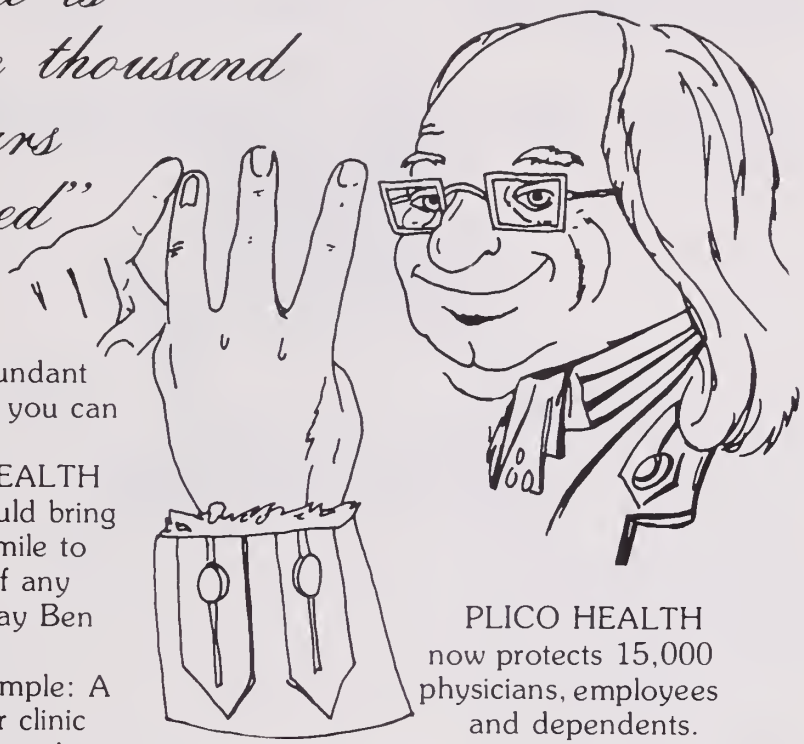
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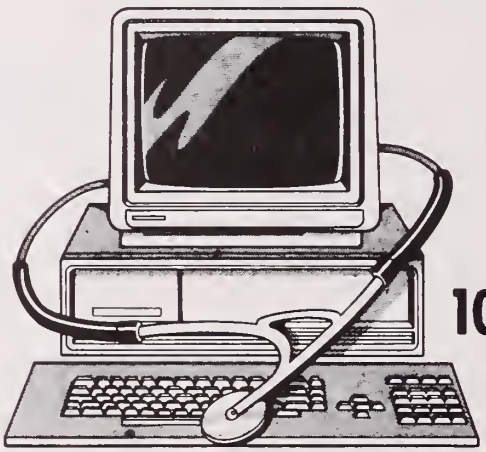
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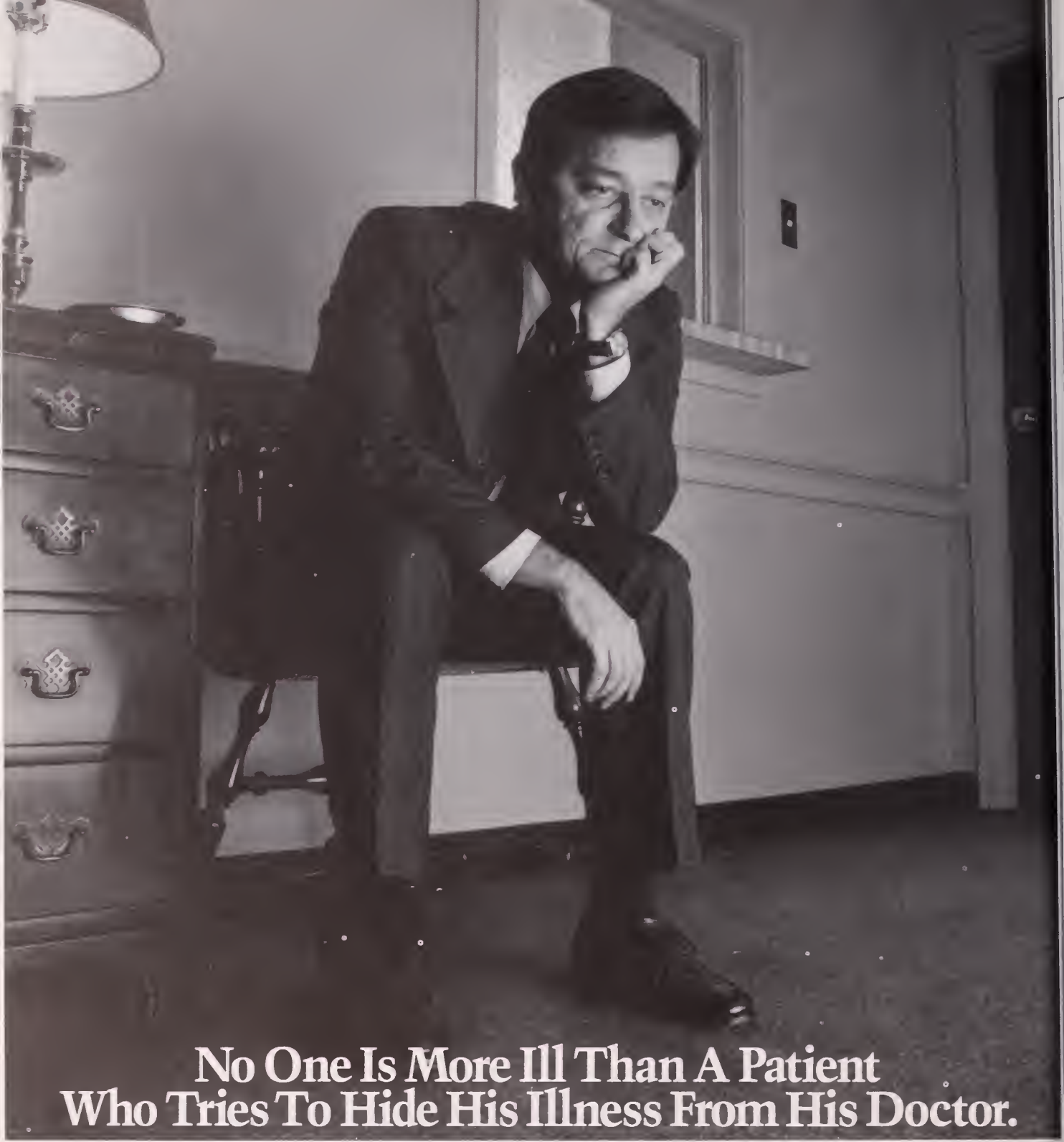
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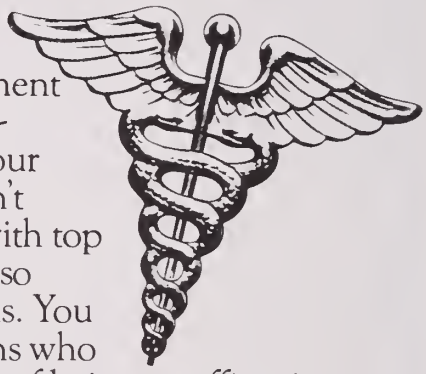
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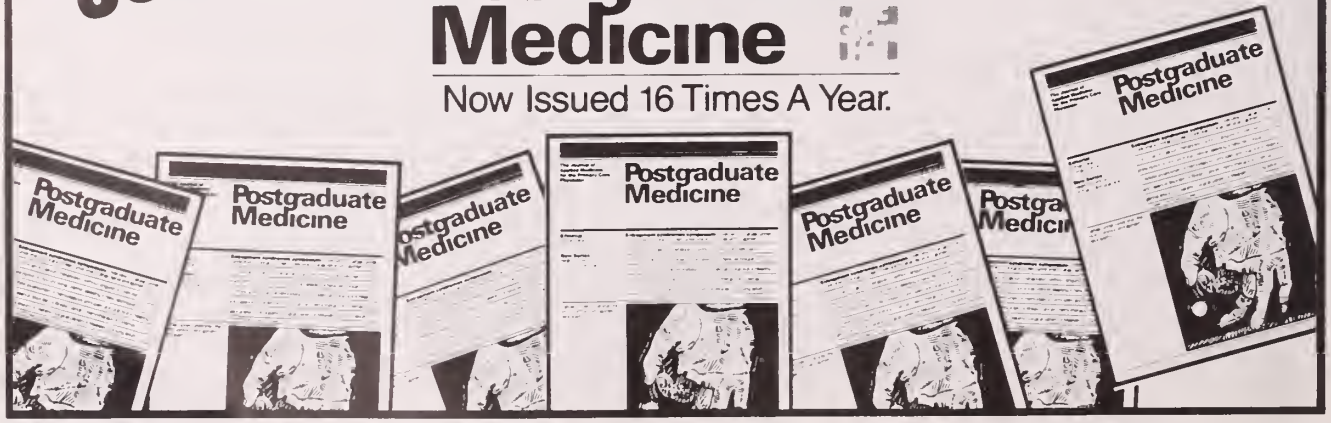
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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

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The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, PO Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.



Billie Brady

The 1985 OSMA and OSMA Auxiliary's Annual Meeting, scheduled for May 1-4 in Oklahoma City, is rapidly approaching. Many people are working hard to put together programs and sporting and social events that will be interesting and enjoyable for both physicians and auxilians.

Among the auxiliary activities scheduled will be an auction to benefit AMA-ERF. The auction will follow the OU Alumni dinner Thursday, May 2. Items to be auctioned will range from small to large, including free lodging for a week or weekend at two private condominiums in Colorado. Be sure to bring your checkbook! We also will feature an investment seminar for women, and if completion dates are correct, a tour of the new botanical gardens in downtown Oklahoma City. And then of course, there will be the drawing for the winner of the diamond-and-ruby drop Friday evening, May 3, during the OSMA President's Inaugural dinner.

The highlight of the meeting will be the presence of our AMA Auxiliary president, Billie Brady (Wayne C.), of Greenville, South Carolina. Billie took office as president of the American Medical Association Auxiliary at the organization's annual convention in June 1984. She was elected president-elect at the 1983 AMA Auxiliary Convention. Billie has served the national auxiliary as treasurer and Finance Committee Chairman; Southern Regional Vice-President; Project Bank Area Councilor; director; member of the Membership and Long-Range Planning Committee; and Task Force to Study a Structure for a Young Physician's Spouse Section. She also was auxiliary liaison to the AMA Committee on Maternal, Adolescent, and Child Health and currently serves on the Advisory Committee, AMA Health Policy Agenda for the American People.

On the state level, Billie has served as a member of the Bylaws Committee and has held the positions of president, regional vice-president, first vice-president, secretary, AMA-ERF Chairman, member of the Long-Range Planning Committee, parliamentarian, Chairman of the Young Physician Spouse Group, and editor. Billie has also held many offices in her county auxiliary.

Active in a wide range of community organizations, Billie served seven years as a member of the South Carolina Child Protection and Advisory Committee, served a two-year term as president of a local nursing home/retirement center auxiliary, and has been a volunteer with the American Red Cross Blood Pressure Screening Program for three years. She has held a number of positions with the Southern Medical Association Auxiliary and is listed in *Who's Who in the South*. Billie has also been involved with the Girl Scouts, Women's Club, American Cancer Society, Botany Woods Garden Club, and Greenville Associate Reformed Presbyterian Church.

Born in Pomaria, South Carolina, Billie received her RN degree from the Columbia Hospital School of Nursing in Columbia and worked as an office nurse before marrying her husband, Wayne, an orthopedic surgeon.

We are honored to have as our guest, for the fourth consecutive year, the AMA Auxiliary president. Please mark your calendar now and make plans to join us May 1-4 for a wonderful convention.

Pam Oster, President

■ **OSMA's updated edition of "Professional Liability: A Medical-Legal Guide for Physicians"** is now available at no cost to members. The 16-page booklet is designed to help physicians reduce their exposure to professional liability litigation. Members may obtain a copy by writing to the OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118 or by calling (405) 843-9571 or (800) 522-9452.

■ **URGENT: Wyeth Laboratories is recalling** from the market all supplies of its Wyvac® Rabies Vaccine, effective immediately. Recent studies of serologic responses to the vaccine by the Centers for Disease Control (CDC) suggest that antibody response after rabies postexposure prophylaxis using the product is suboptimum. Certain patients (approximately 5% of vaccinees) in the CDC's studies have failed to achieve neutralizing antibody titers consistent with ideal antibody response.

Wyeth recommends that all persons who received postexposure prophylaxis with Wyvac® Rabies Vaccine after October 15, 1984, should be given one intramuscular booster with Merieux Rabies Vaccine in the deltoid area, unless sera obtained for medical reasons after prophylaxis demonstrate an acceptable antibody titer. Serologic testing is recommended if a systemic allergic reaction (serum sickness or urticaria) occurred during postexposure prophylaxis. In that case, serologic testing may replace booster administration. Serum testing continues to be indicated if a patient who received postexposure prophylaxis is immunosuppressed (by disease or medications).

Arrangements to defray the expenses of administering a booster dose to postexposure patients after October 15, 1984, can be made by contacting your Wyeth representative or by calling 1-800-321-2304. All Wyvac® Rabies Vaccine should be returned immediately to the supplier or set aside for pickup by a Wyeth representative.

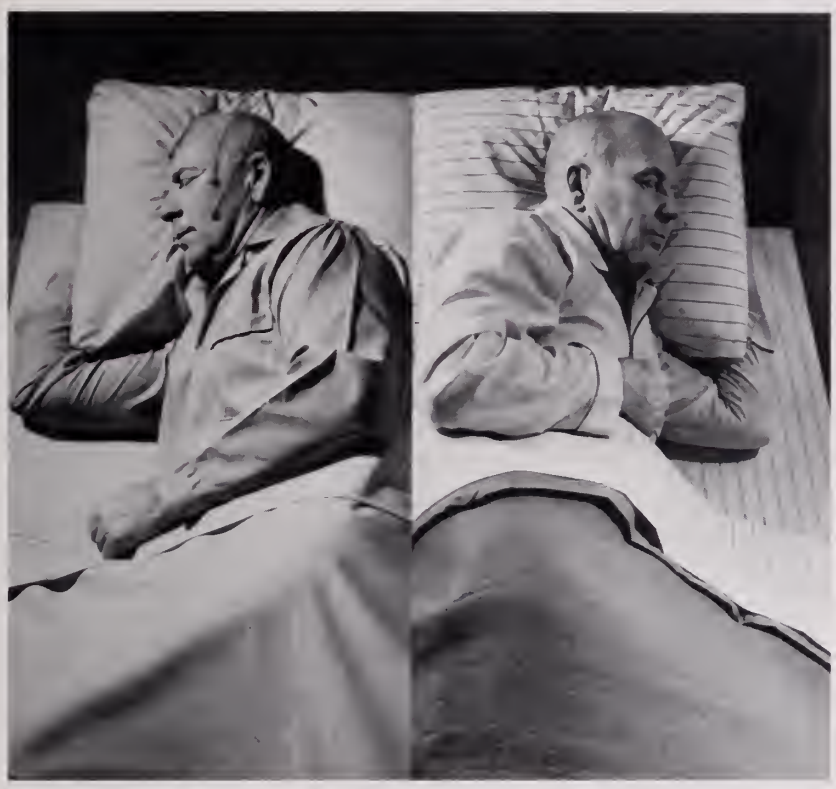
■ **An increased frequency of fingertip loops and** a concomitantly decreased frequency of whorls and arches could offer confirming evidence of Alzheimer's disease, according to a study in the January *Archives of Neurology*. Herman J. Weinreb, MD, of New York University Medical Center, studied fingerprint dermatoglyphic patterns in 50 patients with presumed senile dementia of the Alzheimer type and compared them with a control group of 50 patients. Patients with Alzheimer's disease showed a "significantly increased frequency" of the patterns noted. Those patterns "are congruent with patterns repeatedly found in Down's syndrome, and support the known associations between these two diseases," Weinreb says. Similarities in brain-plaque patterns in the diseases previously have been noted.

■ **In its suit challenging provisions of the Deficit** Reduction Act of 1984, the AMA filed documents examining data on the causes of increased spending on health care. The documents state that "virtually all of (the increased spending) — apparently over 95% — is due to three factors: general inflation, increased Medicare enrollment, and increased utilization of physicians' services by Medicare patients. In real economic terms, physicians' fees to Medicare patients have increased very slowly and average charges and reimbursements have been declining." The AMA said that "physicians' fees . . . measured in constant dollars have been growing by only 1.0% annually since the early 1970s," that physicians' real net incomes have been declining on average (by 0.2% a year)," and that MDs' fees to Medicare patients "have grown no faster than other fees, and appear to have grown more slowly."

■ **C. S. Lewis, Jr., MD, Tulsa internist, was recently named** president of the American College of Physicians (ACP). Dr Lewis has held numerous elective positions in local and state organizations, including the OSMA presidency in 1977-78.

■ **Readers are invited to submit nominations** for appointments to the new OSMA Citizens Advisory Council. Nominees should be persons involved in community affairs. They should have no immediate relatives involved in the health care professions and should hold no elective or appointive political office. Nominations should be submitted to OSMA President James B. Eskridge III, MD, 601 Northwest Expressway, Oklahoma City, OK 73118.

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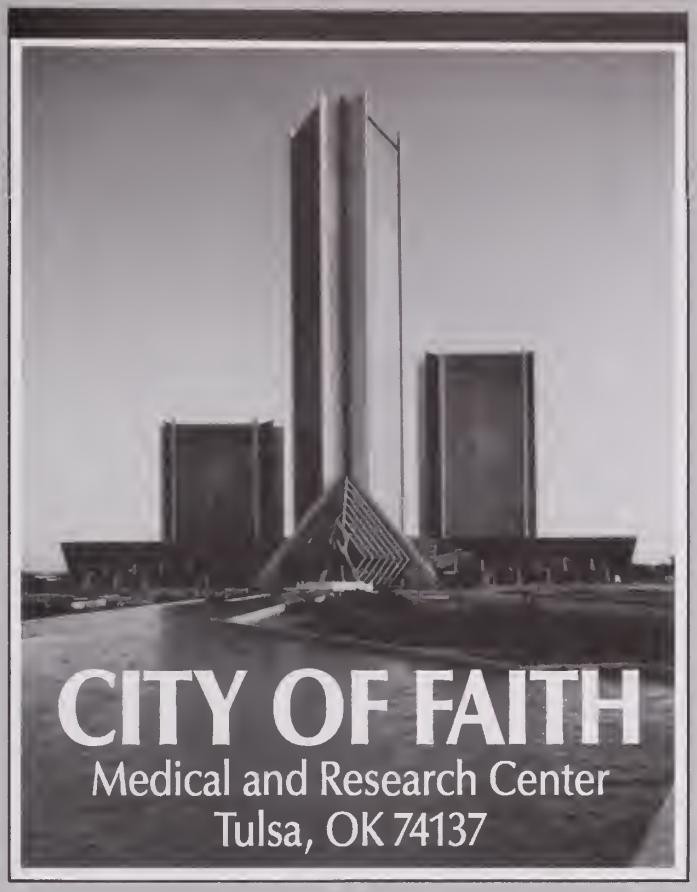
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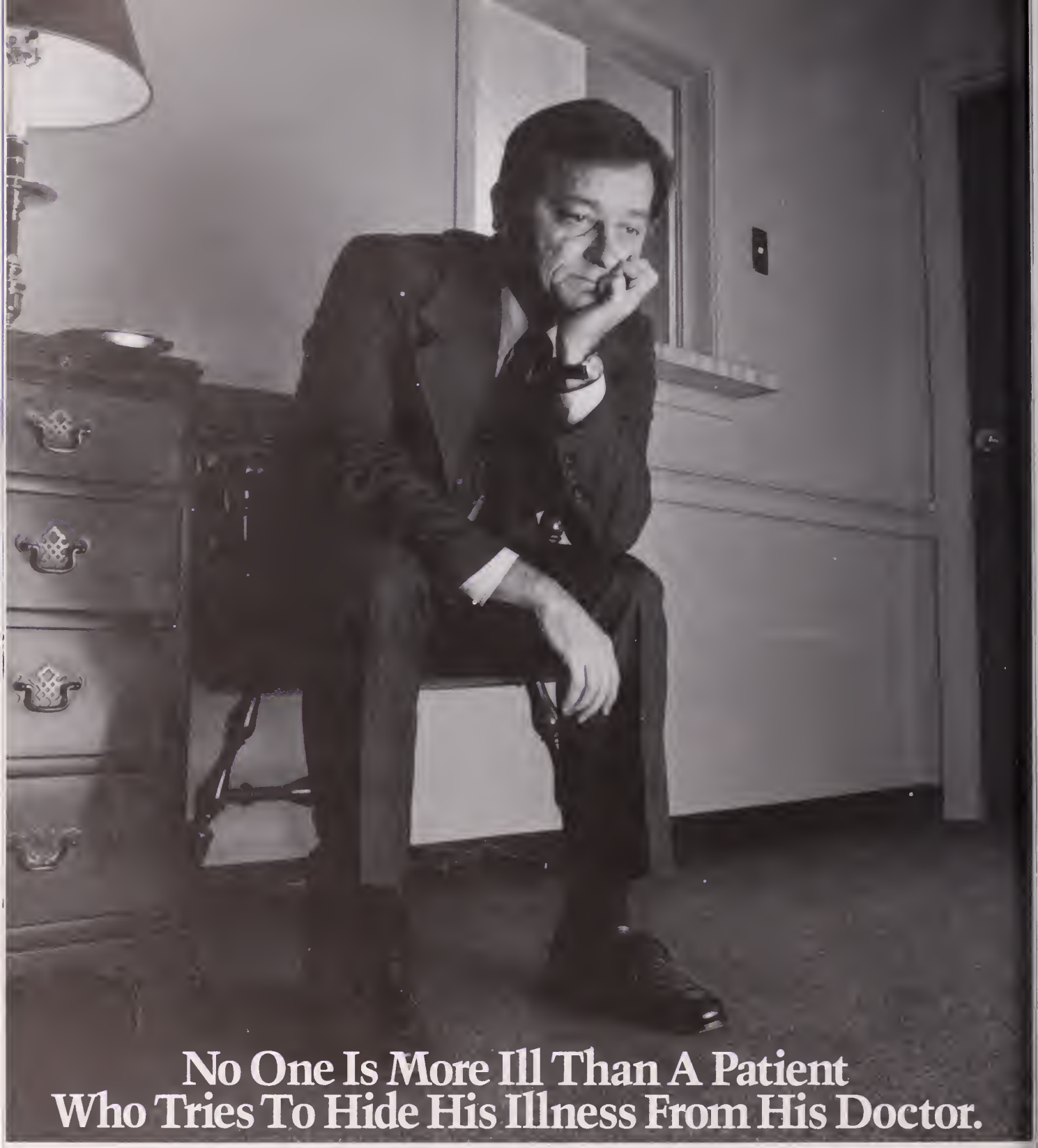
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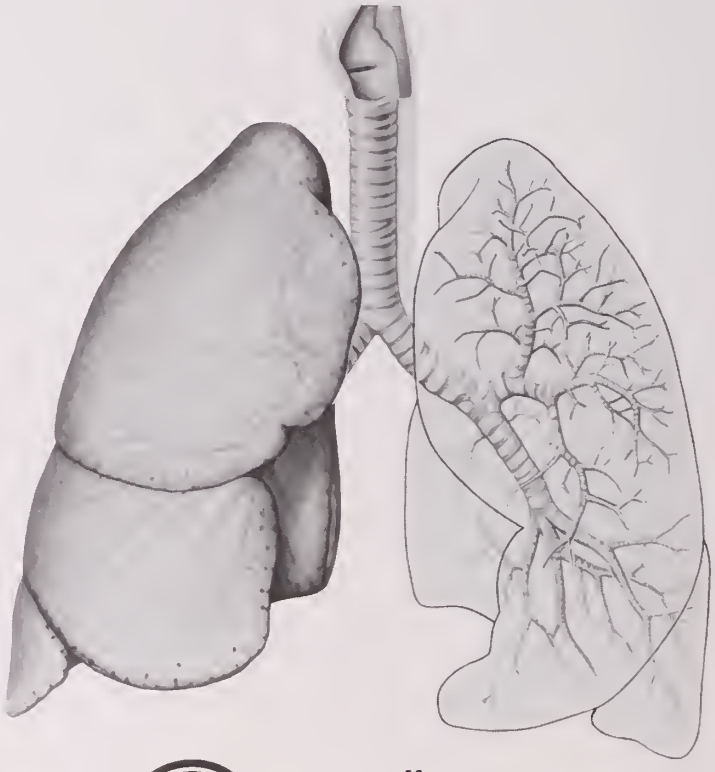
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H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary: Consult the package literature for prescribing information.

Indications and Usage: Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbiliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

Note: Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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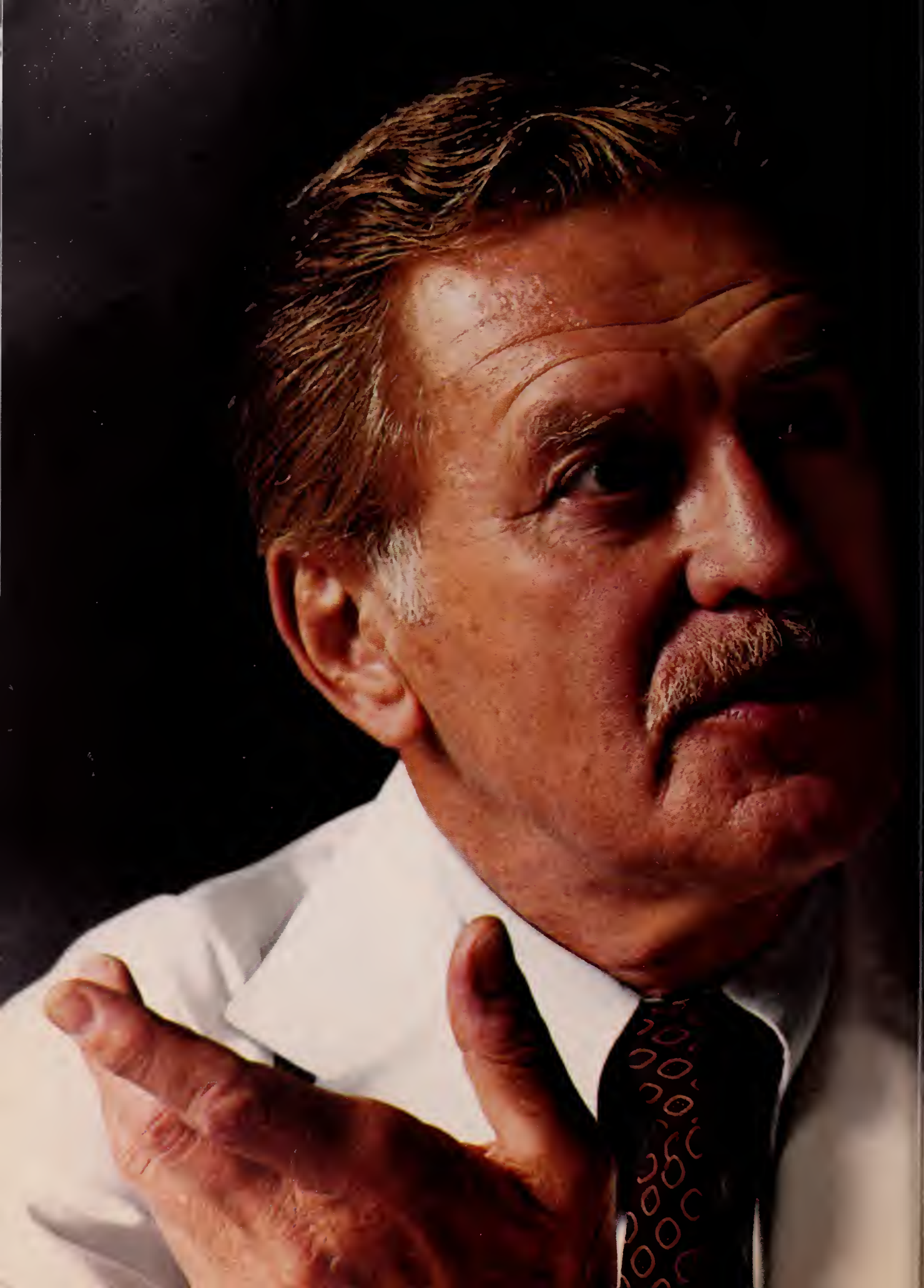
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Please see next page for brief summary of prescribing information.



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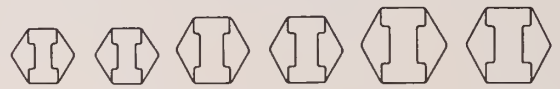
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INDERAL is contraindicated in 1) cardiogenic shock 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS

CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE continued use of beta blockers can, in some cases lead to cardiac failure Therefore at the first sign or symptom of heart failure the patient should be digitalized and/or treated with diuretics, and the response observed closely or INDERAL should be discontinued (gradually, if possible)

IN PATIENTS WITH ANGINA PECTORIS there have been reports of exacerbation of angina and in some cases myocardial infarction, following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS

General Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL (propranolol hydrochloride) may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established

ADVERSE REACTIONS

Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type

Central Nervous System Lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting epigastric distress, abdominal cramping, diarrhea constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory bronchospasm.

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

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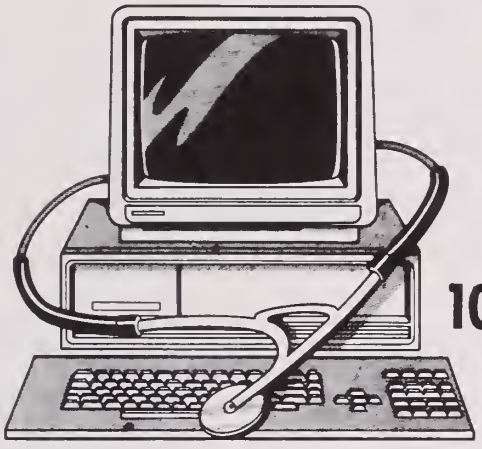
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Medical Care Triumphs

Congratulations, doctor!

What you have accomplished in Mr Miller's case is quite remarkable. In total compliance with your Hippocratic oath, you have prolonged his life and alleviated his suffering. He has just observed his ninety-fourth birthday and although not spry, he is free of pain and still with us, thanks be to you and the divinity which endows you with your talents and resources.

Twenty-four years ago you finally succeeded in your effort to stop his smoking habit. That bout of pneumonia you cured during his fifteen-day stay in the hospital probably helped convince him that cigarettes were killing him. I'm sure you remember that it was during that time you discovered his cholesterol was elevated and put him on a low fat, low salt diet. He raised hell and tried to bribe one of the nurses to smuggle chicken fried steaks and cream gravy into his room. You found out about it and told him he would have to engage a different doctor if he did not follow your advice. As you know, he wouldn't have any other doctor, so he shaped up. Since that day, he has done exactly what you told him to do. He admires you a great deal. If circumstances were different, I'm sure you would realize that he loves you.

No one ever hated exercise more than Mr Miller. He liked to stroll in the park and visit the zoo and go window shopping, but he never did anything just for exercise. Because you insisted, he finally started a daily, vigorous exercise program which he followed faithfully until the day he entered the nursing home. He hated every minute of it but he did exercise. There is little doubt that it strengthened his heart, lowered his blood fats, and gave him a lot more energy.

When he started having chest pain during his exercises, you did that treadmill test and after a lot of other studies, talked him into having surgery on his coronary arteries. Since then, he hasn't complained of chest pain. Not once.

Then there was the time he had that terrible arthritis. You treated him with some big red pills, and all his joint pain went away. He was very grateful and even hugged you. The bad pain in his back and legs did not go away however, until after he had back surgery. For a while he was sure mad at you, but he doesn't even remember it now.

The time he jokingly threatened to castrate you was after his prostate surgery, if you recall. He was delighted to be able to empty his bladder freely but insisted that the operation had destroyed his nature. His wife hadn't objected but her unfortunate death a year later might have prevented your emasculation.

Mr Miller doesn't remember any of this either, and he certainly doesn't have any trouble emptying his bladder. His bed is wet every morning, and his underwear and trousers have to be changed two or three times a day. Fortunately, it doesn't seem to bother him. He never has any visitors so there's no need to force him to wear a bag. He always tore them up and always had to be restrained somehow. They really upset him.

It's probably a blessing that Mr Miller doesn't recognize anyone. Every time one of the nurses enters his room he thinks his wife has finally come to visit him.

No one knows whether Mr Miller has any living relatives. If he does, they never come to visit him. Several years ago he seemed to be very attached to a large teddy bear someone gave him. He kept it with him all the time; even slept with it. In the past few years though, he hasn't seemed to care about anything.

Mr Miller's last visitor was an elderly man from his VFW Post. That was about three years ago. He was a nice old gentleman, but Mr Miller thought he was you. Kept calling him "Doctor."

Have you ever wondered, doctor, if there is any difference between living and existing? Is pain the only kind of suffering there is? Is love mentioned in the definition of "living"?

One more question, doctor. Have you ever visited Mr Miller in the nursing home?

—MRJ

Who Listens??



The story, a favorite of mine, involves two New York City psychiatrists, on the same DOWN elevator at the end of a summer day in the office. The older is impeccably groomed, obviously in complete control . . . calm and collected; the younger, a complete opposite . . . disheveled and beaten down! Says the younger, "Docteh, how do you listen to those people all day long and still retain your composure as well?" Smilingly, the older replies, "Vell . . . who listens??"

Who listens? . . . in medical circles when there's a call for support (or resistance) to state or federal legislation . . . when volunteers are sought for good works or service . . . when opportunities surface to participate in non-medical civic endeavors for the benefit of community life or health? The same cadre of responsive doctors are involved, time and time again, now augmented by some outstanding new folks who will grow, stature-wise, the more they answer the calls!

Who listens? . . . among the public when our profession is punished, ever stronger, by government and/or media . . . when the cries all around them proclaim "health care costs are too high; they're ripping us off" at 11% of the GNP "to pay for their Mercedes(es)!" . . . when advertising and quasi-advertising state that bargain rates are possible, day or night . . . when an unscientific treatment, shunned by "orthodox" doctors, is advertised as better and/or cheaper than expensive, heroic surgery . . . when each new development in the malpractice crisis — every higher award chortled by the media — is presented as a defiant "serves them right." Sadly, "too many" listen is the answer!

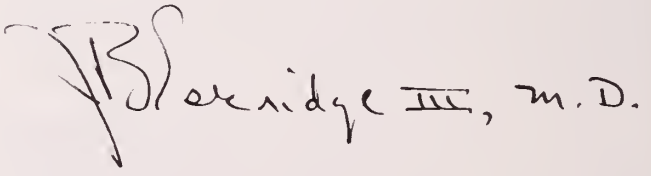
Each of us should crusade individually for medicine's causes, whenever the opportunity presents, lest the cacophony of those who seek to destroy or further maim us and our system of medical care be successful. I'm confident that there is a light at the end of the tunnel or, put in the auditory sense, a wee sound that can be expanded to a symphony. Then, of course, everybody would listen!

* * * *

It has been my pleasure and privilege (to borrow an old phrase of my father's) to have been placed in this high office through your consent. I've enjoyed it immensely. Those OSMA members who have served so well throughout the Association were the ones who generated the progress that OSMA has accomplished since last May . . . I'm grateful to each one of them!

Finally, the executives of the Association — Bickham, Kelsay, Ernest, Sulzycki, Baker, and Carr — have shown their professional mettle over and over, making my job easy and in so doing have made me look fairly good: to them, eternal thanks. To Toni, the several Susans and Kathys, Shirley, Ann, Debbie, and Beth — those very valuable staff members who have graciously done the extra work I've heaped on them — you have made my chores that much more pleasant.

Thank you . . . thank you . . . and give Elvin Amen, the next batter up, the support that he, too, will need.



DIPLOPIA

A Review of 48 Cases of Isolated Ocular Cranial Neuropathy

EDWIN WORTHAM V, MD and HARVEY BLUMENTHAL, MD

Diplopia may result from a variety of causes. The cases reported here illustrate several etiologies, prognoses, and diagnostic investigations.

Acquired diplopia may result from an orbital infiltrative process, disorders of the ocular muscles, pharmacologic agents, defects at the neuromuscular junction, peripheral neuropathy, infiltration, compression of cranial nerves III, IV, or VI, or central nervous system disease such as multiple sclerosis, strokes, or tumors. Reported here are 48 cases of diplopia resulting from isolated cranial ocular neuropathy. This report emphasizes (1) the various causal etiologies, (2) prognosis based on long term follow-up, and (3) analysis and utility of various diagnostic investigations.

Materials and Methods

These 48 patients were preselected by referral to a neurological specialist, often by ophthalmologic and general medical practitioners. Hence, some causes, such as trauma and intrinsic ophthalmic orbital disease, were excluded before referral. Age of the patients ranged from 2 years to 79 years with 75% of the patients over 40 years of age.

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In each case, the chief complaint was diplopia. By clinical examination, including use of the red glass test,[1] a single oculomotor cranial nerve palsy was identified as the cause of the diplopia. Cases of diplopia first presenting with multiple cranial neuropathies or other neurological signs were excluded.

The 48 patients were all personally examined by one of us (H.B.) in hospital or as an outpatient between 1973 and 1983. Investigations included blood pressure recordings, hemograms, sedimentation rates, and fasting blood sugar levels, and in many cases skull x-rays, computed tomographic brain scans with orbital views, and cerebrospinal fluid examinations. In selected cases, cerebral arteriograms, pneumoencephalograms (before CT scanning was available), tensilon tests, and brain stem auditory evoked potentials were performed.

Follow-up evaluations ranged from three weeks to ten years, with approximately one-half of the patients followed for over two years.

Results

1. Etiology. The sixth cranial nerve was the most frequently affected, accounting for 58% of cases; lesions of the third cranial nerve accounted for 25%, and a lesion of the fourth cranial nerve accounted for 17% of cases (Table 1).

In all, isolated cranial neuropathy resulting from

Table 1. Cases of Acquired Extraocular Muscle Paralysis by Cranial Nerve.

Cranial Nerve	# of Cases (%)
III	12 (25)
IV	8 (17)
VI	28 (58)

Table 2. Causes of Paralysis of CN III, IV, & VI

Cause	# of Cases (%)
Vascular	28 (58)
Undetermined	9 (19)
Other	8 (17)
Aneurysm	2 (4)
Neoplasm	1 (2)

Table 3. Causes of Paralysis of Cranial Nerve VI

Cause	# of Cases (%)
Vascular*	19 (68)
Undetermined	5 (18)
Other†	3 (11)
Neoplasm	1 (3)
Aneurysm	0

*Includes: DM (6 cases), atherosclerosis (1 case), HTN (8 cases), migraine (2 cases), temporal arteritis (2 cases).
†Includes 1 case each of encephalitis, post viral syndrome, and orbital inflammation.

Table 4. Causes of Paralysis of Cranial Nerve III

Cause	# of Cases (%)
Vascular*	5 (41)
Other†	3 (25)
Aneurysm	2 (17)
Undetermined	2 (17)
Neoplasm	0

*Includes: DM (2 cases), HTN (2 cases), migraine (1 case)
†Includes one case each of strabismus, chronic progressive external ophthalmoplegia, and myasthenia gravis.

Table 5. Causes of Paralysis of Cranial Nerve IV

Cause	# of Cases (%)
Vascular*	4 (50)
Undetermined	2 (25)
Other†	2 (25)
Neoplasm	0
Aneurysm	0

*Includes atherosclerosis (1 case), HTN (3 cases)
†Includes 1 case each of strabismus and multiple sclerosis

vascular disease was most frequent, accounting for 58% of the cases (Table 2). No definite cause could be found in 19%, and neoplasms accounted for only 2%.

Sixth Nerve Palsy. 28 cases (Table 3). Vascular disease was the most common cause of sixth nerve palsy, accounting for 68% of cases. Hypertension was most often associated (eight cases), followed by diabetes (six cases), temporal arteritis (two cases), migraine (two cases), and atherosclerosis (one case). No cause was found in five cases, and one case each was associated with encephalitis, postviral syndrome, orbital inflammation, and an intracranial neoplasm.

Third Nerve Palsy. 12 cases (Table 4). Vascular disease was also the leading cause of third nerve paralysis. Two cases each of diabetes, hypertension, and intracranial aneurysm were found. One patient was diagnosed as suffering migraine, one had chronic progressive external ophthalmoplegia, one had myasthenia gravis, and one had a long standing strabismus. In only two of twelve cases of third nerve palsy was no cause determined.

Fourth Nerve Palsy. Eight cases (Table 5). Paralysis of the fourth cranial nerve was the least frequent cause of diplopia in this series. Again, vascular disease was the most common cause (three patients with hypertension and one with atherosclerosis). No cause was identified in two cases, one patient had strabismus, and one later proved to have multiple sclerosis.

2. Follow-Up and Prognosis. Follow-up information was available in all cases with duration of follow-up, by office visit or telephone communication, ranging from one week to ten years, with a mean of 2.3 years. Forty-two percent of all cases were followed two to ten years.

The mean duration of symptomatic diplopia varied widely, from 1.9 months in those cases with associated vascular disease to three months in those of undetermined etiology, and it persisted throughout a three-year follow-up in one patient who had an aneurysm that was treated surgically. Diplopia in one patient with an internal carotid artery aneurysm resolved spontaneously in six weeks, a case with orbital inflammation resolved in three weeks, one with postviral syndrome resolved in three weeks, and a case with viral encephalitis resolved in one month. One patient with strabismus had improvement of diplopia by prism correction.

All 26 patients in whom diplopia was caused by vascular disease other than aneurysms (diabetes mellitus, hypertension, temporal arteritis, or migraine) had complete resolution of diplopia within two

Table 6: Recurrence of Diplopia in Five Patients		
Cause	**# of Recurrences**	**Comment**
1. Multiple sclerosis	4	Associated with initial onset of disease
2. Migraine	2	Associated with migraine in each episode
3. Temporal arteritis	2	Associated with reduction of prednisone dose
4. Orbital inflammation	2	Associated with "fatigue" in each episode
5. Hypertension	1	Associated with episode of vertigo lasting 3 weeks

weeks to three months, with a mean of 1.9 months. Similarly, those nine patients in whom no exact cause for the diplopia could be found had complete relief of diplopia within one week to eight months, with a mean of three months.

Recurrence of diplopia occurred in only 5 of the 48 cases (Table 6).

3. Utility of Diagnostic Tests. Complete physical examination with emphasis on neurologic and ophthalmologic function was performed on all patients. Selection of laboratory investigations depended on the clinical history and findings on examination. In all cases a complete blood count and fasting blood sugar test were done. Other frequently used specialized tests were the following:

Test	No. Performed
CT brain scan (Four with orbital views)	32
Skull films	22
Lumbar puncture	17
Sedimentation rate	15
Cerebral arteriogram	11
Tensilon test	10

Other specialized tests performed less frequently were electroencephalogram, brain stem auditory evoked response, thyroid function, and pneumoencephalogram (before CT scan was available). Laboratory investigations proved to be of crucial diagnostic significance in 6 of the 48 cases (Table 7). In most cases the laboratory confirmed our presumptive diagnosis. When an intracerebral lesion was suspected,

Table 7: Cases in Which Laboratory Investigation Yielded a Specific Diagnosis			
Cases	**Physical Findings**	**Laboratory**	**Diagnosis**
1. 47 M with 6 mos. diplopia & maxillary pain	Orbital cellulitis & lat rectus weakness OD	Sinus film: soft tissue mass in maxillary antrum, sinusitis	Orbital inflammation 2nd to sinusitis & max retention cyst
2. 68 F with acute diplopia.	Inf. rectus weakness OS. Normal neuro exam	Pos. tensilon test. Pos. acetylcholine receptor antibodies	Myasthenia gravis
3. 2 F with fever, lethargy, & vomit. Eye turned in OS	Lat. rectus weakness OS	Normal CT brain. CSF: lymphocytosis	Post viral syndrome: presumed
4. 73 F with retro-temporal pain & diplopia	Lat. rectus weakness & temporal tenderness OD	Sed rate: 115	Temporal arteritis
5. 79 F with retro-orb. HA, & diplopia	Sup. & inf. gaze weakness OD with pupil assymetry	CT: parasellar mass. Angio: R int carotid aneurysm	Aneurysm
6. 56 F with retro-orb. HA & diplopia	Ptosis. Med. rectus weakness OS. Normal pupils	Angio: aneurysm & L post cereb & comm artery	Aneurysm

it was confirmed by either CT scan or angiography. In the 23 patients with a history of hypertension or diabetes and without any other focal neurological deficit, the laboratory investigations indicated no other diagnoses. In the 9 cases designated "undetermined," there were no clinical or laboratory findings leading to a specific diagnosis.

Discussion

Previous reports addressing the problem of paralysis of the third, fourth, and sixth cranial nerves did not exclude patients with accompanying neurological signs and symptoms such as facial numbness, combinations of cranial nerve paralysis, trauma cases, or postoperative cranial nerve complications.[2-5] This is surprising because the problem of isolated cranial neuropathy is not infrequent, and knowledge of the common causes, helpful diagnostic measures, and prognosis depending on etiology are important. This report focuses on patients who presented with diplopia resulting from mononeuropathy of cranial nerves III, IV, or VI. Patients who presented with multiple cranial neuropathy or other complicating neurological signs and/or symptoms were omitted. In addition, cases with obvious trauma, a common cause of neuropathy in previous series,[2-5] were not represented here. It should not be surprising, therefore, that in making comparison with the other large series cited, our results and conclusions differ.

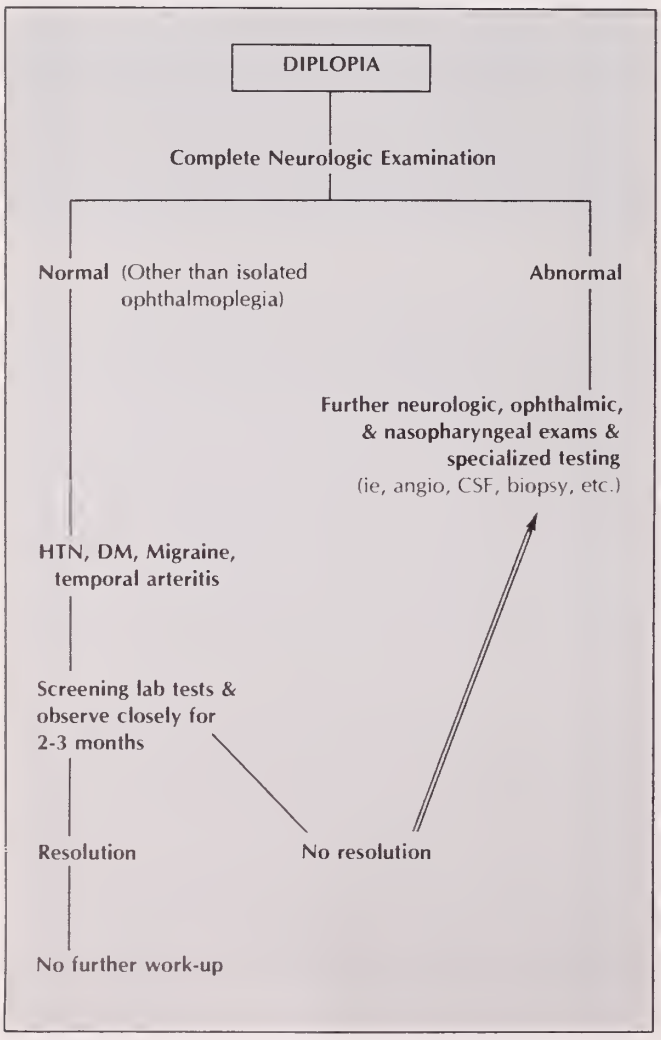


Fig. Schema for conservative work-up of new onset diplopia.

Vascular disease caused by diabetes, hypertension, temporal arteritis, migraine, and aneurysms was the most common cause of diplopia in our series, causing 58% of cases compared to 20% to 30% of nontraumatic cases in previous large series.[2-5] The 19% in whom we could find no definite cause compares to the 21% to 26% of undetermined cause found by others.[2-5] Neoplasms accounted for only 2% of our cases, whereas in previous large series 14% to 26% of cranial neuropathy resulted from tumors (with many of those patients having other neurological signs).[2-5]

Though not specifically represented in our case series, there are rare reports of cranial ocular neuropathy caused by Paget's disease, pseudotumor cerebri, complications of meningitis and myelography, collagen vascular disease, sarcoidosis, Wernicke's encephalopathy, cavernous sinus disease, herpes zoster, botulism, various types of intracranial tumors, nasopharyngeal tumors, scleroderma, syphilis, and drug toxicity including tricyclics, carbamazapine, nitrofurantoin, and others.[2-13]

Specific attention is called to third nerve palsy resulting from compression of this nerve by an enlarging saccular aneurysm. If the diagnosis can be made before rupture of the aneurysm, it may be lifesaving. The common presentation is ptosis and diplopia resulting from third nerve compression accompanied by a dilated pupil. Infrequently, the pupil is not affected, and thus cerebral angiography is usually required to establish the diagnosis.[14,15] Two of our 12 patients with third nerve palsy had a saccular aneurysm.

Conclusion

The recovery rate in our series suggests an overall healthy prognosis in patients with isolated nontraumatic monocular ophthalmoplegia. More specifically, the 100% resolution of diplopia in all 28 vascular cases with either hypertension or diabetes alone is very encouraging. Although our patient cohort is small, we feel that a diagnostic and management schema can be recommended (Fig).

When a patient presents with diplopia resulting from isolated oculomotor cranial neuropathy, ie, no

other neurological, medical, or ophthalmologic signs or symptoms, a general vascular work-up including complete blood count, fasting blood sugar, sedimentation rate, computed brain tomography, and sinus x-rays should be performed. Tensilon test and spinal fluid examination may be indicated. We generally do not recommend angiography for patients with a third nerve palsy in whom the pupil is spared and in whom the CT scan or skull x-rays are negative. If these studies prove normal in a patient with either hypertension or diabetes, the patient may be followed carefully for approximately three months. If new signs or symptoms develop, further investigation will be necessary.

The results of studying a larger group of patients followed prospectively may improve confidence in the present clinical guidelines for diagnosis. Such a study would, furthermore, help to establish the benign course in those patients with diplopia caused by an isolated monocular ophthalmoplegia in whom there are normal neurologic findings and perhaps only evidence of vascular disease. □

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Coming in May . . .

Among the papers being considered for publication in May are a report on oral anticoagulant-induced femoral nerve entrapment, an epidemiologic study of prostate cancer in Oklahoma, and a special article on childhood croup as it was described from 1836 to 1889.

Observations on the Hormonal Response of Metastatic Prostatic Carcinoma

JOHN B. FORREST, MD

Data compiled by the author from two separate institutions suggest that survival following hormonal therapy in metastatic prostatic carcinoma is a function of the patient's age at the time of initiation of the therapy.

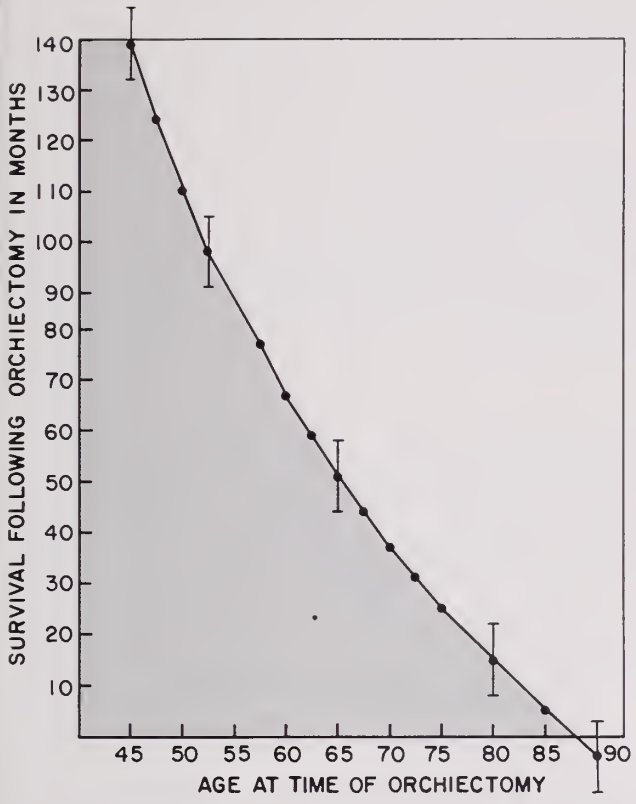
Hormonal therapy, either in the form of orchiectomy or exogenous estrogens, has been the mainstay of therapy for metastatic prostatic carcinoma since the pioneering work of Huggins and Hodges in 1941.[1] The response to hormonal therapy, however, has not always been a predictable event.[2,3] Several recent observations have been made that may aid in predicting the response to hormonal therapy.

In 1981, at the University of Virginia Hospital, a study was initiated to examine the difference in survival rates observed in private and nonprivate patients who underwent orchiectomy for metastatic prostatic carcinoma.[4] The initial study revealed a statistically significant difference in the survival between private and nonprivate patients following orchiectomy. There was also a significant difference in the mean age between the two groups of patients, with the nonprivate patients being five years older at the time of orchiectomy for symptomatic metastatic disease. However, no statistical difference in the survival rates between the two groups of patients was noted when the rates were examined using a modified Wilcoxson analysis. This statistical model allows for the natural dropout rate of patients according to advancing age. More interesting, however, were the overall survival rates of the two groups when studied by linear regression analysis. Linear regression analysis revealed a hyperbolic curve with a correlation coefficient (r^2) of .90 (Fig). The standard error was seven months. This finding suggested that the survival of those patients undergoing orchiectomy was a function of age at the time of orchiectomy.

A similar study was performed on a group of patients at Memorial Sloan-Kettering Cancer Center.[5] The population selected for examination consisted of those patients who developed metastatic disease after I-125 implantation for metastatic prostatic carcinoma. This group was composed largely of patients with lymph nodes testing positive at the time of implantation. Treatment was not initiated until symptomatic metastatis had developed. The patients were treated either by orchiectomy or oral estrogens and were followed until death. Using a linear regression model, their survival was found to correspond to a hyperbolic curve with a correlation coefficient of .70. This observation also suggested that the response to hormonal therapy was a function of age at the time of treatment.

A recent report in the European literature also suggests a correlation between hormonal levels and response to treatment.[6] Patients were stratified ac-

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cording to age and T category. Pretreatment levels of testosterone, FSH, LH, and prolactin were measured. A positive correlation was noted between T category, pretreatment hormonal levels, and response to hormonal therapy for advanced disease. The patients with the highest pretreatment levels of testosterone enjoyed the most prolonged response to hormonal therapy. This also correlated inversely to advancing age.

In general, it is felt that serum testosterone decreases with advancing age.[7,8,9] However, the total amount of testosterone may not vary with advancing age in an individual patient. It is recognized, though, that with advancing age, testosterone-estrogen binding globulin increases with a corresponding decrease in levels of free testosterone. The physiologic fraction therefore decreases and may provide less support for tumor growth. At that point, the nonhormonally responsive pool of tumor cells may become the dominant tumor fraction.

Conclusion

This brief review is intended to report some relatively new observations in regard to the survival of patients undergoing hormonal therapy for metastatic prostatic carcinoma. Independent studies by the same author suggest that survival following hormonal therapy for metastatic prostatic carcinoma is a function of the age of the patient at the time of hormonal treatment. It has also been demonstrated that this survival correlates with pretreatment levels of serum testosterone. With these observations in mind, a logical extension would be to design therapeutic regimens that would encompass therapies beyond endocrine therapy in those patients who are unlikely to respond to primary hormonal therapy. □

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Physicians Abroad

The Wise Women of Clamart

SUSAN CHAMBERS, MD

In August and September, 1984, Dr Chambers, a resident physician in the Department of Obstetrics and Gynecology at the University of Oklahoma College of Medicine, spent part of her elective time in Paris, France. She found herself "quite impressed" by the French midwifery system . . .

Sage femme — wise woman. This comprehensive and descriptive phrase is the French term for "midwife." Although there are hundreds of sage femmes working in Paris alone, I had the opportunity and pleasure to work with twenty-five of these women in the Hospital Antoine Beclere in the Paris suburb of Clamart. My two months of work there exposed me to a unique group of women who play a vital role in the care of pregnant women. For this conservative American female physician, it was an unexpected and rewarding experience.

Midwives in France must complete three years of training beyond the baccalaureate degree (our high school equivalent). During these years they receive intensive training, both didactic and clinical, in obstetrics, gynecology, pediatrics (specifically neonatology), anesthesiology, and medical-legal matters. This is followed by a one-year practicum. At the end of the four years they receive a diploma from their associated medical school and are ready to practice midwifery.

These women give several reasons for choosing this profession. Most claim a basic desire to help other people. This desire is directed toward aiding women and experiencing with them one of the most important and exciting times of their lives — the birth of a child. Others find the academic and scientific stimulation rewarding and pursue this with further training in high-risk obstetrics, which enables them to complement a high-risk obstetrics team. Still others enjoy the "hands on" primary care aspect of the field.

Antoine Beclere offers an exceptional working opportunity for midwives. It is not only a local public hospital, but a university-associated hospital, thus attracting a wide variety of patients. The maternity unit is headed by Dr Emile Papiernik, who initiated his innovative prematurity prevention program at Clamart in 1973. This program is based on the intensive education of women about risk factors for preterm labor. To carry out this successful theme requires an intelligent and hard-working staff, but more importantly, a stable one. Residents and interns come and go but the midwives remain. Thus, the sage femme is the backbone of the program and ensures its continuation, coherence, and success. Dr Papiernik, as chairman, is ultimately responsible for each midwife and her actions. There is also a hierarchy of administration and responsibility within the population of midwives in order to maintain the high standards of the group.

Students, residents, and faculty physicians benefit from the experienced sage femme. The midwives, who routinely manage and deliver low-risk patients, also serve as clinical teachers in helping interns and medical students learn the basics of normal labor

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and delivery. The sage femmes' ability to recognize potential or subtle abnormalities in labor, fetal monitoring, etc, allows doctors to put the midwives in charge of patients independently. The midwives by no means claim to be physicians; they know their limits and call for assistance when necessary.

An air of professionalism exists at the daily staff conferences where all deliveries in the previous twenty-four hours are discussed. Midwives present a history of each woman and a full account of each delivery they performed. A normal, low-risk delivery is considered as important as a complicated one. Again, the vital role of the sage femme in this maternity unit is exemplified.

One night when I was on call, I was impressed by a young, yet veteran, midwife. A cesarean section was performed on an eclamptic patient at thirty weeks gestation. The midwife scrubbed in, received the small, limp infant from the obstetricians, and hurried it to a nearby warming unit for resuscitation. Even though the pediatric resident was present, the experienced midwife was the force in charge. She guided the resuscitation beautifully, teaching the young resident various things as they returned the infant to a viable state. I saw in this particular midwife the intense concern for health and life that I had found in all of the midwives. Her enthusiasm that night was contagious, and her instructions to a "superior" were graciously received.

The sage femmes also staff the clinics, and function similarly to our nurse practitioners. Each consultation involves routine questions and further education about the risk factors for prematurity, followed by an examination. A mutual respect is established between the pregnant woman and the sage femme. The previously established rapport and the reputation of the sage femme facilitate the educational prevention program. Some midwives, called *sage femmes a domicile,* visit high-risk patients in their homes to eliminate patient stress in traveling to the hospital. Unpublished data indicate that this intervention is instrumental in lowering preterm birth rates.

Though the pediatric resident was present, the experienced midwife was the force in charge.

My work was research oriented, so I was situated in the information and data office of the department. Here, two sage femmes process all the information from all deliveries. Because of their prior training and experience, they can glean from the charts all pertinent facts, then record them systematically in the computer. Information is then ready for retrieval for retrospective analysis. The clinical knowledge and research experience of these women is used extensively in the preparation of the many publications produced by this maternity unit.

Granted, as in every professional organization, there are a few members who do not meet the group's high standards, but in this group they are rare. At Antoine Beclere, the members of this vital part of the maternity unit truly exemplify their name — sage femmes — wise women. □



Prison Riot!

Story and pictures by
JOE D. HAINES, JR., MD

On August 29-30, 1983, at the Conner Correctional Center near Hominy, Oklahoma experienced its second prison riot in recent history. The riot resulted in the death of one inmate, the injury of nineteen inmates and three prison guards, and the destruction of over four million dollars in state property.

Author's note: Hominy and McAlester are relatively small cities located in rural sections of the state and situated many miles from major medical centers. Partly as a result of its isolated location, the Hominy Emergency Medical Service (EMS) had evolved into a system that demonstrated remarkable preparedness when tested by a major disaster. The following article details the Hominy EMS response to the Conner Correctional Center riot of 1983.

In the small Osage County town of Hominy, another hot August day was ending quietly. Larry Taylor, EMT, was making preparations for what he hoped would be an uneventful night on call with the local ambulance service. As Taylor watched dusk approach, he reflected with pride upon the exemplary ambulance service that he, a few volunteers, and an enthusiastic town had built in less than a year. When he had arrived in Hominy to become the first director of the newly formed Hominy EMS, the town had no ambulance service whatsoever.

Taylor had supervised the development and growth of a service that, in a few short months, had become one of nine advanced life support (ALS) systems in the state of Oklahoma. The state ALS rating was truly a feat for an ambulance service in a town of only 3,000. Some had questioned the necessity of such an advanced level of care for so small a town, but after the events of this fateful night the detractors would fall momentarily silent.

At 7:30 PM Taylor received an urgent call for assistance from the Conner Correctional Center. Conner, a so-called model prison and the Corrections Department's self-proclaimed showplace, was located just three miles north of Hominy. Taylor hastily notified Sergeant Mike Coplen, EMT, and together the two men sped north to the prison.

What they did not realize was that the second prison riot in recent Oklahoma history had just erupted — and they had hundreds of potential patients. Taylor and Coplen were the first medical personnel to arrive, and they stared in disbelief as the riot gained momentum, and fire and chaos spread throughout the prison.

"It looked like the whole place was going up in flames. I immediately called for a general emergency because I knew we had a long, hard night ahead of us," Taylor recalls.

Then began what he refers to as "a frantic, extremely critical period."

His call for help set in motion a network of calls that notified all off-duty and volunteer EMTs in Hominy, the local physicians, and the ambulance services of surrounding communities. Within minutes, a response team was in motion and converging on the scene of the prison riot.

Taylor quickly established an EMS command post near the entrance to the administration building at the north end of the prison. He and Coplen then entered the prison grounds and were directed to the first of the injured. Dense smoke was pouring into the lobby of the building, but Taylor could still see through the windows into the prison yard.

I dove on top of the patient I was treating and felt empty shell casings raining down.

"The prisoners were running through the prison yard berserk and objects were flying through the air and smashing into windows. We could see injured men lying in the yard," Taylor remembers.

As the medics began ministering to the first victims, the main generator was knocked out. The lights darkened and then returned as the auxiliary generator kicked in. Within minutes, however, the auxiliary failed and darkness returned to complicate matters.

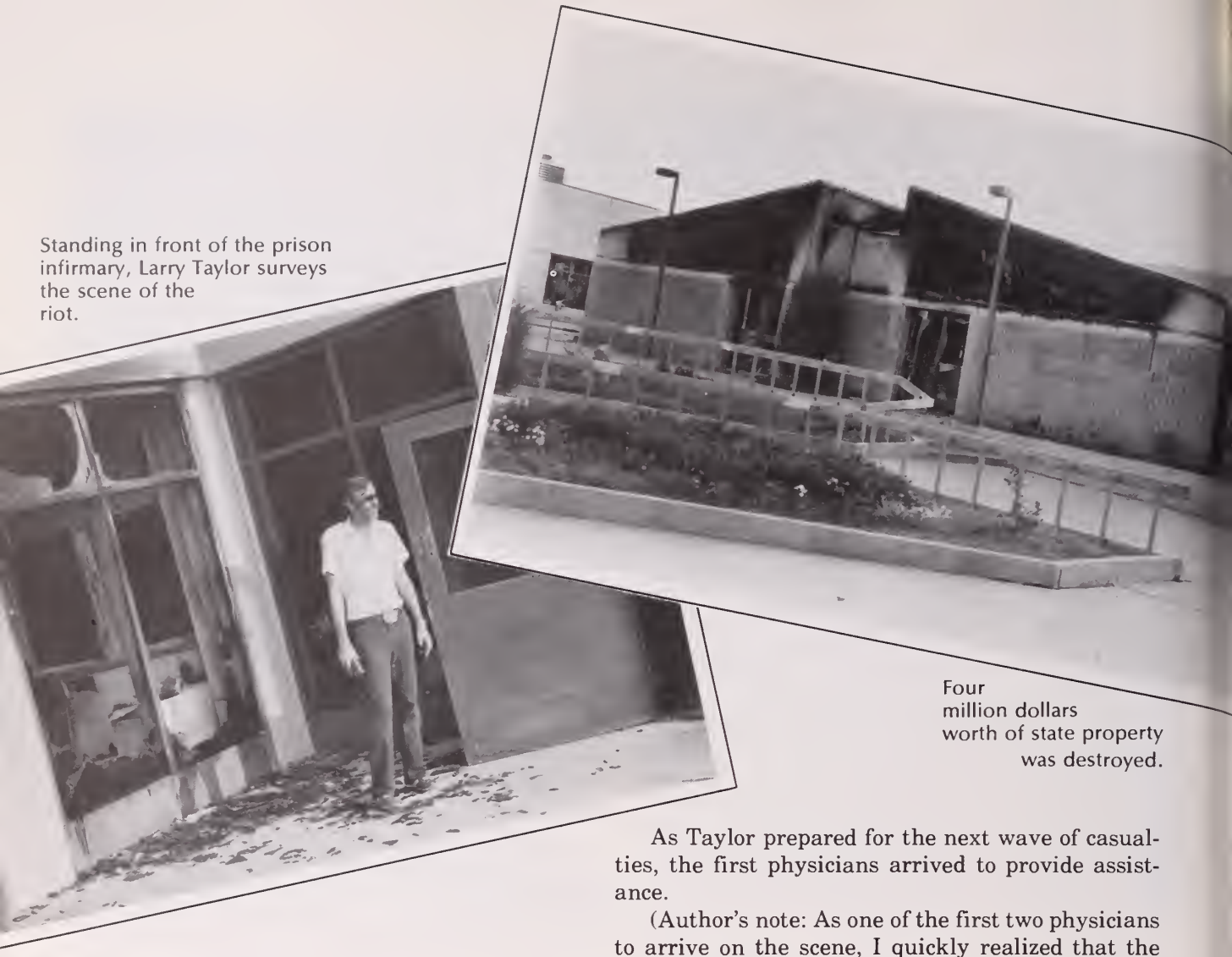
An inmate brought in two injured prisoners, one of whom had been stabbed in the abdomen with a homemade knife; the other had a severe scalp laceration. Realizing that surgical help was necessary, Taylor radioed for assistance from Central Ambulance based at Saint John Medical Center in Tulsa. Randy Hunt, RN-Paramedic and Chief Flight Nurse, took the call and he and his crew flew the fifty-mile distance in under ten minutes. After Hunt arrived he assisted in stabilizing and readying the victims for transport.

Three injured guards were brought in for treatment. One had sustained a serious head injury, one a fractured arm and a scalp laceration, and the third an eye injury. The area where the medics worked bristled with law enforcement officers armed with automatic weapons to protect the medics.

"The guards were carrying mini-14s and stood nearby as we treated the victims, but I wasn't prepared for the sudden burst of gunfire near my head," Taylor relates.

"I dove on top of the patient I was treating and felt empty shell casings raining down. I started to

Joe D. Haines, Jr., MD, Route 1, Box 333, Hominy, Oklahoma 74035.



Standing in front of the prison infirmary, Larry Taylor surveys the scene of the riot.

Four million dollars worth of state property was destroyed.

look up, but Randy pushed me down and told me to stay there."

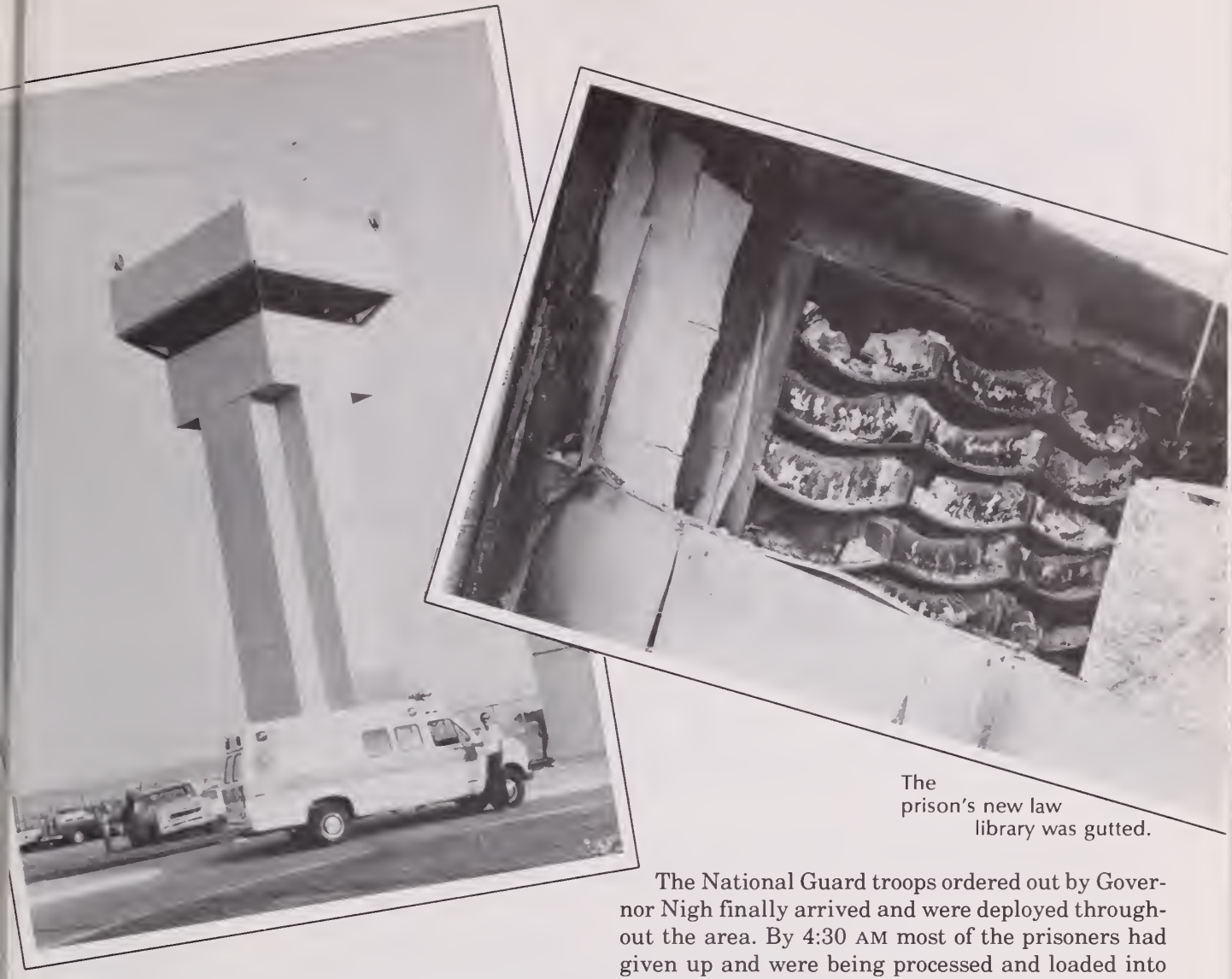
The shots had been fired to warn some prisoners who were contemplating storming the building to gain control of the prison's arsenal, which the guards were quickly moving outside the prison grounds. Before evacuating the building, Taylor and Hunt pushed bandages through the windows for the inmates in the yard to use.

Meanwhile, the riot was accelerating. Many had predicted that a prison riot was inevitable with some 740 prisoners crowded into facilities for 400. For two weeks, greater-than-100 degree heat had aggravated the overcrowding problem, and a seemingly minor occurrence, the temporary shortage of rations for the evening meal, lit the fuse to the powder keg.

Fifty to sixty angry inmates began yelling "No!" when told they'd have to wait for some substitute rations, and they poured out into the prison yard where their anger infected the 200 to 300 prisoners already there. The group rapidly became a mob and chaos ensued as the guards lost all hope of quelling the disturbance.

As Taylor prepared for the next wave of casualties, the first physicians arrived to provide assistance.

(Author's note: As one of the first two physicians to arrive on the scene, I quickly realized that the prison had no plans for dealing with an emergency of this magnitude. I had initially reported to Hominy City Hospital with other area physicians John Hudson, MD, Gordon Laird, MD, Joseph Alvarez, DO, and Robert Yanik, DO, and, hearing the med-evac helicopters overhead, had guessed that the situation was grave. Unable to establish radio communications, I sped north to the prison with David Churchill, MD, an internist in Hominy who also served as the prison physician. When Churchill and I arrived we found that a razor-wire-topped fence and some Oklahoma Highway patrol officers crouched behind their cars with ready shotguns constituted the prison perimeter. I surveyed the chaotic scene and saw that the prison's electrical power had been knocked out, but the flickering flames of numerous fires cast an eerie glow over the area. Sporadic gunfire could be heard within the prison as hundreds of law enforcement officers converged on the area. Prisoners with homemade weapons roamed at will. The scene resembled something out of Vietnam. As the volunteer medical director of the Hominy EMS, I assumed medical control of the triage station while Dr Churchill directed prison health care personnel.)



The prison's new law library was gutted.

Well within an hour of Taylor's general alert, fifty-one EMTs, ten ambulances, and three helicopters were on hand. As injured prisoners were ferried out to the triage station, their wounds were quickly assessed, and the patients were categorized by severity of injury. The injured emerged in a steady stream, and the less severely injured were sent to one station for first aid while the remainder received immediate treatment, stabilization, and transport.

The advanced triage station had full Advanced Cardiac Life Support (ACLS) and Advanced Trauma Life Support (ATLS) capability, thanks to Hominy's recent upgrading of its service. The ALS system was credited for greatly reducing the morbidity and mortality of the twenty-three victims. The only death was due to a gunshot wound to the chest.

The stream of injured finally became a trickle, and by midnight around half of the 750 prisoners had surrendered. Fires and sporadic gunfire continued through the night as the surrendering prisoners told tales of 80 to 100 inmates dead or dying within the prison yard. It was still much too dark for officers to enter the prison safely without fear of ambush.

The National Guard troops ordered out by Governor Nigh finally arrived and were deployed throughout the area. By 4:30 AM most of the prisoners had given up and were being processed and loaded into buses for deportation to the state penitentiary in McAlester, scene of a 1973 riot.

At dawn, heavily armed officers began combing the prison grounds for holdouts and casualties. Fortunately, no additional casualties were discovered; the rampant rumors were false. The medical team exchanged weary looks and commented on the success of the disaster response plan.

Then began the long retrospective analysis and evaluation needed to make those improvements and refinements that only experience could dictate. It was clear to all that the Hominy EMS's leadership in taking command at the riot had been the crucial factor in the success of the medical response.

A small-town ambulance service had coordinated a disaster response and underscored the necessity of such a plan in any service, no matter how small or limited its resources. The Hominy EMS had been tried by fire, and the fledgling service had passed the test. □

Joe D. Haines, Jr., MD, has a family practice in Skiatook. He is a 1981 graduate of the University of Oklahoma Tulsa Medical College.

News from
the Oklahoma State
Department of Health

Eldercare Program

An Oklahoma State Department of Health program designed to help the state's elderly continue living independently within their homes and communities is now beginning its fourth year of operation.

Known as Eldercare, the program coordinates health and social support services for persons age 60 or older who can no longer perform many necessary daily tasks.

By utilizing a network of resources within the community, the program is able to meet the needs of the elderly in a cost-effective manner. One of the goals of Eldercare is to teach clients how to utilize these resources so they can make their own arrangements.

Family, friends, neighbors, or the individual may request Eldercare services. A service manager will visit with the client and family members to determine which services are most appropriate, then will arrange for those services to be provided.

There are no income restrictions. Some services are offered on a sliding fee basis for those able to pay, while other services are paid by Medicare, Medicaid, and private insurance.

Services arranged through the program can include transportation, home maintenance, physical therapy, assistance with Social Security and insurance, monitoring of medication use, shopping, cooking, and other activities.

Currently, there are Eldercare project areas serving 27 counties. Physicians may direct their questions about the program to the Chronic Disease & Home Health Care Division, (405) 271-4072. □

DISEASE	January 1985	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	1	1	0	0
CAMPYLOBACTER INFECTIONS	11	11	11	—
ENCEPHALITIS, INFECTIOUS	2	2	0	0
GIARDIA INFECTIONS	17	17	8	—
GONORRHEA (Use ODH Form 228)	1212	1067	1212	637
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	18	18	12	—
HEPATITIS A	17	17	37	16
HEPATITIS B	3	3	8	10
HEPATITIS, NON-A NON-B	1	1	2	—
HEPATITIS UNSPECIFIED	5	5	7	7
MEASLES (RUBEOLA)	0	0	0	0
MENINGITIS, ASEPTIC	2	2	1	3
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	1	3	3	5
MENINGOCOCCAL INFECTIONS	0	0	2	2
PERTUSSIS	2	2	2	1
RABIES (Animal)	4	4	5	6
ROCKY MOUNTAIN SPOTTED FEVER	0	0	1	0
RUBELLA	0	0	0	0
SALMONELLA INFECTIONS	33	33	13	10
SHIGELLA INFECTIONS	8	8	8	8
SYPHILIS (Use ODH Form 228)	24	24	11	8
TETANUS	0	0	0	0
TUBERCULOSIS	13	13	12	12
TULAREMIA	1	0	0	0
TYPHOID FEVER	0	0	0	0

Diseases of Low Frequency	Total to Date This Year	
ACQUIRED IMMUNE DEFICIENCY SYNDROME	0	
BRUCELLOSIS	0	
LEGIONNAIRES DISEASE	0	
MALARIA	0	
REYE SYNDROME	0	
TOXIC SHOCK SYNDROME	0	
RABIES		
LOVE	DOG	1
SEMINOLE	SKUNK	1
STEPHENS	SKUNK	1
TILLMAN	COW	1

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Take a break in the exhibit hall at Annual Meeting '85

More than thirty exhibitors will be in attendance at the OSMA Annual Meeting this year in Oklahoma City. Located in the Skirvin Plaza Hotel's exhibit hall, they will be offering a variety of products and services for physicians' business, professional, and leisure interests.

OSMA delegates and guests are encouraged to stop by, visit with the exhibitors, and see their array of samples, displays, and information. Coffee will be available throughout the day.

The list of exhibitors and sponsors for this year's meeting includes the following:

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Micro Consulting, Inc.
Mid-America Computing, Inc.
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O'Donoghue Rehabilitation Institute
Oklahoma Military Department
Oklahoma Medical Political Action Committee (OMPAC)
Prodata
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Rullman-George Marketing
Southern Medical Association
Southwestern Stationery & Bank Supply
T. K. Smith Co., Inc.
Staff Leasing, Inc.
United Automation Services, Inc.
U.S. Navy (Recruiting)
W. R. S. Securities, Inc.
Willow View Hospital □

OSMA Board of Trustees approves new Life Memberships in February

Twelve new Life Memberships were approved by the Oklahoma State Medical Association (OSMA) Board of Trustees at their February 17 meeting.

The memberships were approved for James D. Loudon, MD, Shawnee; Herbert S. Orr, MD, Inola; John D. Osborn, MD, Muskogee; and Sumner Y. Andelman, MD, Paul N. Atkins, Jr., MD., Howard M. Cohenour, MD, Rayburne W. Goen, Sr., MD, Mason R. Lyons, MD, Matthew B. Moore, MD, James H. Neal, Jr., MD, Dale E. Newman, MD, and George E. Parkhurst, MD, Tulsa.

To be eligible for a Life Membership, an OSMA member must meet one of more of the following qualifications: (1) Be retired from the active practice of medicine due to ill health or age; (2) Be engaged in the active practice of medicine for fifty years or more; (3) Be seventy years of age or older. □

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AMA to notify licensing boards about actions in other states

State licensing boards will be alerted by the American Medical Association (AMA) when a licensure action has been taken against a physician in other states.

The new procedure will identify physicians who, having been disciplined in one state, may attempt to practice in another jurisdiction where they hold a license. The association will use its computerized Physician Masterfile to speed communications among licensing bodies.

State boards currently notify the Federation of State Medical Boards (FSMB) in Fort Worth, Texas, of actions they have taken against physicians. The FSMB reports the actions in a monthly summary. Because the FSMB summary lists only the jurisdiction that took the disciplinary action, each state licensing board must review the summary to determine if it has issued licenses to any of the named physicians.

Under the new procedure, the AMA will check the FSMB summary against the Masterfile, and inform each state board by letter when the license of one of its physicians has been revoked, suspended, or limited. The AMA Masterfile is the only data base that can identify all the states in which a physician is licensed.

"This action is being taken in the wake of national disclosures and concerns regarding credentialing abuses," according to James H. Sammons, MD, AMA executive vice president. "The AMA is cooperating with the FSMB by providing information to help strengthen the physician credentialing process," Sammons says.

In addition to its collaborative effort with the FSMB, the AMA works with state and federal agencies to identify "physicians" who have obtained their credentials fraudulently, such as individuals who may have picked up the credentials of a deceased physician. Last year, the association assisted the US Inspector General in investigations of illegal trafficking in medical credentials, and helped the Educational Commission for Foreign Medical Graduates determine the validity of credentials from three schools in the Dominican Republic. □

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August dates posted for PLICO's 1985 loss prevention seminars

PLICO's loss prevention seminars for 1985 will be held in Oklahoma City and Tulsa during the month of August. Physicians who attend one of the meetings can obtain a professional liability premium discount from PLICO.

The Oklahoma City seminar is scheduled for Saturday afternoon, August 10, at The Centre, located on North May. The Tulsa program will be Saturday, August 24, at the new Sheraton Kensington Hotel.

Official registration information will be sent to all Oklahoma physicians in a special issue of "PLICO News" during early July. Registrations for the two seminars will not be accepted until that time. However, physicians are urged to mark their calendars now and reserve the appropriate date.

In order to obtain the 5% per year discount on professional liability insurance premiums, an insured physician must attend a seminar every three years. Any physician who has not attended a seminar since 1982 must attend this year in order to receive the discount on 1986 premiums.

The programs will begin at 1:00 PM. Early plans for the seminars call for three main speakers, each talking for approximately one hour. □

Board certification growing in popularity among today's doctors

Board certification, despite its voluntary nature, has been increasing rapidly, AMA research economist Steven Culler, PhD, and sociologist Edmund R. Becker, PhD, say in an article published in the January issue of the *Journal of Medical Education*.

Between 1971 and 1981, the annual growth rate of physicians obtaining board certification was 7.2%, while the annual increase in all physicians was 3.2%. By the end of 1981, 53.2% of US physicians were board certified. The percentage is higher (62.2%) if only nonfederal patient care physicians are considered.

If the growth rate of the 1970s and early 1980s continues through 1989, nearly 70.4% of all physicians will be board certified by the end of the decade. By the turn of the century, 90% will be.

The AMA Center for Health Policy Research found that board certification was more prevalent for certain specialties, ages, types of practice, and locations of practice. Surgical and medical specialists, for example, were the most likely to be board certified (74.3% and 65.2%, respectively), while general practitioners were the least likely to be (39.9%).

Although board certified physicians had higher gross incomes on the average than their non–board-certified counterparts, they also appeared to have higher overheads that dissipated the economic advantage of board certification. □

First five years of practice to be focus of AMA committee

The Committee on Young Physicians has been convened by the AMA to determine how the association can be more responsive to the special needs and interests of MDs in their first five years of practice.

Young physicians today face stiffer competition than any previous generation of MDs. And while most physicians entering practice still are able to obtain hospital privileges, there are indications that the opportunities to do so are dwindling.

Because of the difficulty in obtaining privileges at preferred hospitals, and because young physicians are encumbered by as much as $80,000 in medical school debts, they may be more likely than their older colleagues to enter salaried positions.

"Communities used to welcome a new doctor with open arms. Now we have closed staffs and an impending doctor glut," Michael F. Collins, MD, chairman of the ad hoc committee, said in an interview. Dr Collins, an internist who holds an appointment at Texas Technological University, Lubbock, said that the AMA Board of Trustees had called for a study of young physicians' concerns as a priority issue of 1985.

AMA officials have stated that the association needs to increase its appeal to young doctors if it is to speak for the majority of physicians in the United States. The steady growth of medical school graduating classes in recent years has resulted in a large percentage (42%) of MDs who now are under the age of 40 years.

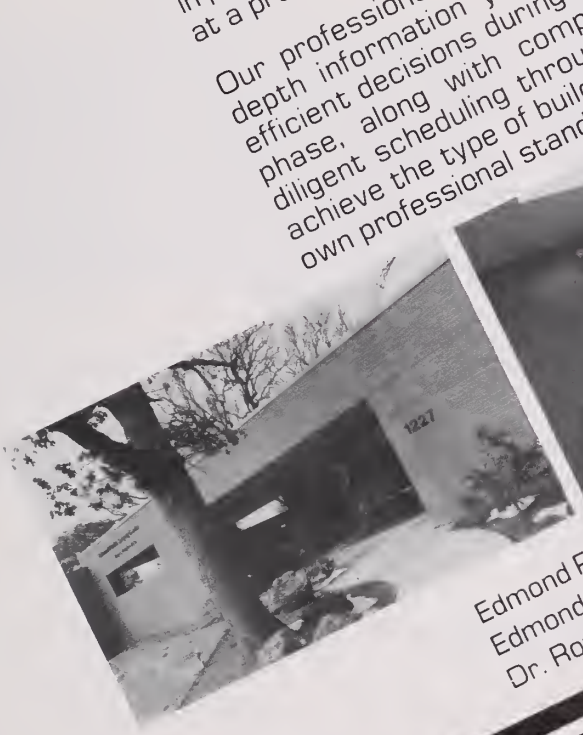
"If, during its two-year tenure, this committee can help the association define some ways in which it can more actively involve younger physicians at all levels of the association — county, state, and national — then the committee will have succeeded," Dr Collins said. □

OSMA ANNUAL MEETING
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Deaths

OWEN L. HILL, MD
1906 - 1985

Owen L. Hill, MD, retired Vinita physician, died January 15 in San Antonio. Dr Hill earned his medical degree at the University of Tennessee College of Medicine in Memphis and came to Oklahoma in 1943 to establish a private practice in Tulsa. In 1969 he joined the staff of Eastern State Hospital and was head of its outpatient clinic at the time of his retirement in 1977. He was a member of the Southern Medical and American Psychiatric associations and a Life Member of the OSMA.

EARL M. LUSK, MD
1912 - 1985

OSMA Life Member Earl M. Lusk, MD, of Tulsa died January 30 in Tulsa. A 1937 graduate of the University of Arkansas College of Medicine in Little Rock, Dr Lusk specialized in family medicine. He was an Army veteran of World War II and held many positions in county and state professional organizations.

LARRY L. LOWERY, MD
1931 - 1985

General practitioner Larry L. Lowery, MD, of Guymon, died February 12 in Guymon. Born in Colorado Springs, he was graduated from the University of Oklahoma College of Medicine in 1956 and established his practice in Guymon the following year.

HARRY WILKINS, MD
1904 - 1985

Oklahoma City's first neurosurgeon and cofounder of the neurosurgical residency program at the University of Oklahoma College of Medicine, Harry Wilkins, MD, died February 14 in OKC. Dr Wilkins was born in Mena, Ark, and was graduated from the OU School of Medicine in 1928. He opened his practice in neurosurgery in 1931. A Life Member of the OSMA, Dr Wilkins was featured in the JOURNAL's Leaders in Medicine series in December 1982.

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WILLIAM H. BUCHAN, MD
1912 - 1985

William H. Buchan, MD, a general surgeon in Tulsa since 1946, died February 15 in Tulsa. Born in Cleburne, Tex, Dr Buchan received his medical degree from the University of Arkansas School of Medicine, Little Rock, in 1941. He served as a battalion surgeon with the US Marine Corps in the Pacific from 1942 to 1944.

AUSTIN H. BELL, MD
1904 - 1985

Retired surgeon Austin H. Bell, MD, of Oklahoma City, died February 23. Dr Bell was born in Hopkinsville, Ky, and earned his doctorate at Vanderbilt University. He practiced medicine in Oklahoma City for more than twenty-five years, retiring in 1961. During World War II he served with the 21st Evacuation Hospital from the University of Oklahoma. Dr Bell was an OSMA Life Member.

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In Memoriam

1984	
Donald J. Worden, MD	*April 1*
William I. Jones, MD	*April 3*
Paul Kernek, MD	*May 9*
Leon C. Freed, MD	*June 12*
William D. Bolene, MD	*June 18*
Lee K. Emenhiser, MD	*June 26*
Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Seth D. Revere, MD	*October 6*
Oliver H. Patterson, MD	*October 13*
Emmett H. Lindley, MD	*November 8*
Clark H. Hall, MD	*December 5*
Henry G. Bennett, Jr, MD	*December 18*
Adoniram V. Bowen, MD	*December 29*

1985	
Owen L. Hill, MD	*January 15*
Earl M. Lusk, MD	*January 30*
Larry L. Lowery, MD	*February 12*
Harry Wilkins, MD	*February 14*
William H. Buchan, MD	*February 15*
Austin H. Bell, MD	*February 23*

Videotape about loss prevention now available to state groups

A new video taped loss prevention program is now available from the Oklahoma State Medical Association (OSMA). Designed for medical staff meetings, county society meetings, and specialty society meetings, the program runs approximately thirty minutes and can be played on either a VHS (½") or U-matic (¾") video tape player.

Narrated by OSMA Legal Counsel Ed Kelsay, the program is a video taped version of a slide presentation developed for use during the 1985 PLICO loss prevention seminars. It contains a series of recommendations to aid physicians in avoiding professional liability problems.

Arrangements to borrow the videotape may be made by calling the OSMA, (405) 843-9571 in Oklahoma City. The program will be mailed out prior to the scheduled meeting and must be returned immediately afterward. □

HARD WORK & SMALL MIRACLES

I'm Hallie Everitt.

I suffer from Guillain-Barré Syndrome, a viral disease of the nerve endings. From the minute I was admitted to R.I.O., my mind began to come back.

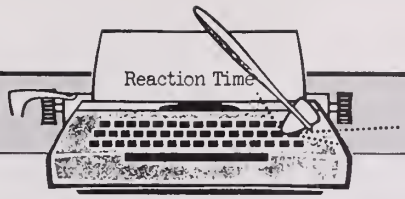
I came there unable to lift my head from the pillow. Sixty days later, I walked out the door and drove home to Dallas.



After acute care, what? Recovery often comes from retraining, not bed rest. Help your patients out of bed, and into a productive life. Call our Program Manager today for complete information.

Rehabilitation Institute of Oklahoma

700 Northwest 7th Street • Oklahoma City, OK 73102 • 405-236-3131



Attorney invites editor to move to Russia

To the editor: Your editorial appearing in the February, 1985, Oklahoma State Medical Association JOURNAL titled "A Divine Suggestion" is hardly that. It advocates that Oklahoma physicians quit purchasing malpractice insurance to discourage patients from suing them for malpractice. The irresponsibility of the actions suggested in the editorial is exceeded only by the irresponsibility of the Oklahoma State Medical Association JOURNAL in advocating such an amoral, hedonistic non-solution to a problem that is the price we Americans pay for having a judicial system that is open to all citizens.

I would be the first to agree that more than one Oklahoma physician has been sued for malpractice without justification. I would be the first to agree that it would be a better world to live in if no patients were ever injured by the "honest mistake" you refer to and no doctor was ever sued by any "litigious-minded patients."

Unfortunately, we live in a real world where not all doctors are as perfect as you. Some doctors *do* make mistakes and *do* actually hurt their patients. Don't fall out of your chair, doc, it really does happen.

When malpractice actually occurs, it is the insurance company that provides the funding by which the injured victim can feed himself and his family. To advocate not having this valuable *protection for your patients* is akin to advocating driving your car without insurance. While a person venturing voluntarily onto the roadways can buy "uninsured motorist" insurance, one entering the medical arena out of necessity cannot purchase "uninsured doctors" insurance to protect themselves against an encounter with a member of the lunatic fringe of your profession that will read your editorial and take it seriously.

Your profession is no more free of the alcoholics, addicts and incompetents than my profession and to arrogantly suggest a visit to some mythical tax wizard who will magically render your readers "judgment proof" and therefore somehow immune from liability is, besides misleading, a nose-thumbing that might make you feel better for a few days but is not likely to curry much favor at the pearly gates from the God you mention who will have to make other arrangements for the patient who has to suffer the consequences of the doctor's "honest mistake" and his intentional act of irresponsibility in dropping his insurance coverage.

The average Oklahoma doctor pays less for malpractice insurance than he does for upkeep on his professional automobile and the "exorbitant and unjustifiable awards made by juries" are rare.

Your fantasy that your advice would lead to (A) a "mass emigration" from Oklahoma of attorneys and (B) an increase in "the awareness of a divine influence in our daily lives" assumes that your profession and your insurance company is a larger part of Oklahoma life than they really are.

Unless you are demented, you know that what I say here contains more truth than the space filling ravings you have labeled an editorial and have embarrassed your association with.

You should tell your readers that you meant to publish this editorial on April Fools Day and encourage them to stay the course and exercise good judgment to work within the system to achieve better patient care at a reasonable cost.

If you are really as unhappy as your editorial seems to imply, I understand that there is a need for physicians with your qualifications in Moscow and that the commies know how to take care of us "prowling claims attorneys."

I invite your sober reply.

Howard K. Berry III
Berry & Berry, P.C.
Oklahoma City

To paraphrase the wisdom Shakespeare immortalized in the words of Hamlet *(act 3, scene 2), "The [lawyer] doth protest too much, methinks."*

—MRJ

Lawsuit illustrates quandary

To the editor: I thoroughly enjoyed your editorial entitled "A Divine Suggestion" in this month's JOURNAL [Feb 1985]. The spiritual and ethical strengths which you emphasize are necessary for the redirection of medicine. I have enclosed a copy of an article

Reaction Time (continued)

entitled "What Is a Profession" that we distribute in a course that we teach on radial keratotomy at the McGee Eye Institute. Radial keratotomy is a new experimental procedure to reduce myopia. Our recommendations for caution in the development and proliferation of this procedure until adequate data was generated nationally has provided us with a twenty-six million dollar national restraint of trade lawsuit. Your caveats for altering our malpractice concerns are therefore increasingly auspicious.

J. James Rowsey, MD
Dean A. McGee Eye Institute
Oklahoma City

Book Reviews

Perspectives in Biomechanics (Volume 1, Part A & B). Edited by H. Reul, D. N. Ghista, and G. Rau. New York: Harwood Academic Publishers, 1980. Pp 891 with numerous illustrations. Price not given.

The two parts of this book are composed of eighteen sections (chapters) dealing with the general area of biomechanics and applications. The topics range from medicine to sociology and require some knowledge in mathematics and mechanical engineering to understand. The intent of the editors is that the book be used as a state-of-the-art reference book or a textbook in graduate level courses in biomechanics.

The first section of the book makes a case for and demonstrates the use of applied biomechanics in medicine. Succeeding sections deal with solid mechanics, fluid mechanics, heat transfer, and systems theory. Following these sections are others demonstrating the scope of biomechanics using kinematics and people interaction as model systems. The remaining sections concerning traumatic injury to bony structures, rehabilitation, and basic areas such as compartmental analysis.

The book, though interesting, lacks strength in areas such as organization of the material into cohesive units. There is no building of material so that a reader with some knowledge of mathematics and engineering could follow the specific examples used. The editors have attempted to achieve this but because of the wide breadth of the area of biomechanics, clarity is lacking. On the positive side, anyone with more than a passing interest in the area of biomechanics will find a lot of material in this book. This would be particularly true for people in orthopedic surgery or dealing with trauma injuries to the bony elements. Despite the unevenness of the book, many sections are well written and convey a large amount of information. I would recommend the book on the strength of these good sections, with the clear reservation that the book is not for anyone without some engineering background.

H. Lowell Stone, PhD
Department of Physiology and Biophysics
University of Oklahoma College of Medicine
Oklahoma City

Surgical Infections. Selective Antibiotic Therapy. Edited by Robert E. Condon and Sherwood L. Gorbach. Baltimore: Williams and Wilkins, Co., 1981. Pp 180. Price not given.

This monograph, edited by a surgeon and an internist, consists of papers that were originally presented in the *Journal of Surgical Practice,* since transformed into *Surgical Practice News.* The series appeared from the summer of 1977 to the spring of 1980. However, many of the papers have been updated and revised. The book is made up of twenty-four chapters contributed by twenty-six authors.

The first chapter provides an excellent discussion of normal flora. The next six chapters discuss specific antibiotic classes — the penicillins, cephalosporins, aminoglycosides, and others. This is followed by a chapter on combinations of antibiotics and treatment. L. D. Sabath discusses in the next chapter the body's distribution of antibiotics, and this is followed by a chapter dealing with mechanisms of resistance by Francis P. Tally. The role of antibiotics in various diseases and types of surgical treatment is then reviewed. These include peritonitis and gynecologic, intestinal, urologic, head and neck, and cardiovascular surgery. Antibiotics in trauma and burn patients are discussed in separate chapters. Gorbach provides a pertinent discussion on prophylactic antibiotics, and Dennis Maki discusses the epidemiology of surgical wound infections and provides guidelines for prevention.

As is frequently the case in books with multiple contributors, there is some unevenness in presentation and also some duplication. All in all, however, the chapters are well written and up to date. One glaring omission is the lack of discussion of surgical infections and their treatment in infants and children, most aspects of which differ significantly from the treatment of adults.

This is a satisfactory reference for those concerned with surgical infections.

Harris D. Riley, Jr, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center,
Oklahoma City

Oklahoma City

79th Annual Meeting

May 2-4

Oklahoma State Medical Association

The 79th Annual Meeting of the Oklahoma State Medical Association promises to be bigger and better than ever. So big that for the first time it will require the facilities of two of Oklahoma City's finest hotels. The Skirvin Plaza Hotel will host all scientific programs, exhibits, and the OSMA House of Delegates. OSMA Auxiliary functions and evening social activities will be in the Sheraton Century Center.

Three distinguished graduates of the University of Oklahoma College of Medicine — Edward N. Brandt, Jr., MD, chancellor, University of Maryland, Baltimore; Everett Rhoades, MD, director of the Indian Health Service; and J. Raymond Hinshaw, MD, chief of surgery, Rochester, NY, General Hospital — will highlight the scientific program.

Another first for this year's meeting will be two short courses offered prior to each day's general scientific session.

A practical scientific program, the business of the House of Delegates, and the camaraderie of golf, tennis, dinners, and dances add up to a rewarding and enjoyable meeting.

Plan to attend — the 79th Annual Meeting of the Oklahoma State Medical Association.

Short Courses

For the first time, physicians attending the OSMA Scientific Program may elect to take either of two short courses — "Pulmonary Disease" or "Arrhythmias — 1985." The courses are designed to offer a practical approach for physicians with limited or moderate experience in managing these problems.

Each four-hour course will be offered from 7:30 AM to 9:00 AM, May 2 and May 3 (continental breakfast will be provided), with an additional one hour scheduled for Thursday afternoon.

A $25.00 registration fee is required for each course to cover reading material, which will be sent to each participant.

The deadline for registration for either short course is April 23.

(continued)

(Short Courses, continued)

Arrhythmias — 1985

Course Director: Eliot Schechter, MD
Professor of Medicine
University of Oklahoma Health Sciences Center

Topics:
- Mechanisms of Arrhythmias
  Cellular — Anatomic
- Role of Electrophysiologic Testing
- Review of Arrhythmias
- Review of Antiarrhythmic Drugs
  Drug Selection — Drug Complications
- Review of Pacemakers
- Bradyarrhythmias
  Sick Sinus Syndrome — AV Block

Pulmonary Disease

Course Director: D. Robert McCaffree, MD
Associate Professor
University of Oklahoma Health Sciences Center

Topics:
- Treatment of Acute Exacerbations in COPD
- Asthma: Outpatient and Emergency Room Treatment
- Acute Respiratory Infections and Rational Selection of Antibiotics
- Peri-operative Pulmonary Assessment and Management
- Role of Respiratory Therapy in the Care of Respiratory Diseases
- Respiratory Failure

1985 Scientific Program
Skirvin Plaza Hotel

Thursday, May 2

7:00 AM Registration and Continental Breakfast for Short Courses

7:30 AM Short Courses: Pulmonary Disease
Arrhythmias — 1985

1:30 PM Sleep Apnea: Diagnosis and Management
Willard B. Moran, Jr., MD
Otorhinolaryngology
Oklahoma City Clinic

2:30 PM Rationing of Health Care: Choices to Be Made When Resources Are Limited
Everett R. Rhoades, MD
Assistant Surgeon General
Director, Indian Health Service

3:15 PM Using the Carbon Dioxide Laser to Solve Both Simple and Complex Surgical Problems
J. Raymond Hinshaw, MD
Chief of Surgery
Rochester, NY, General Hospital

4:00 PM Exhibitors Reception

4:30 PM Short Courses:
Pulmonary Disease
Arrhythmias — 1985

Friday, May 3

7:00 AM Registration and Continental Breakfast for Short Courses

7:30 AM Short Courses:
Pulmonary Disease
Arrhythmias — 1985

Morning Session Theme: Acquired Encephalopathy in the Older Patient

9:00 AM Stupor and Coma: Impaired Mental Function
Richard V. Smith, MD
Neurosurgery
Mercy Health Center
Oklahoma City

9:40 AM Drug-Induced Encephalopathy
Thomas L. Whitsett, MD
Professor of Medicine and Pharmacology
University of Oklahoma Health Sciences Center

10:00 AM Recognition of Organic Brain Syndrome
Richard E. Carpenter, MD
Neurology
St. Anthony Hospital
Oklahoma City

10:20 AM Depression in the Elderly
Thomas M. Donica, MD
Clinical Assistant Professor of Psychiatry
University of Oklahoma Health Sciences Center

10:40 AM Panel and Roundtable Discussion of Morning Topics
Moderators:
John A. Moore, MD
Professor of Medicine
University of Oklahoma Health Sciences Center
Director of the Chronically Ill and Aging Program
University of Oklahoma Health Sciences Center and
Veterans Administration Hospital

R. Timothy Coussins, MD
David Ross Boyd Professor and
Acting Chair, Department of Medicine
University of Oklahoma Health Sciences Center

1:30 PM Recurrent and Persistent Hyperparathyroidism
Claude H. Organ, MD
Professor of Surgery
University of Oklahoma Health Sciences Center

(continued)

(Scientific Program, continued)

2:00 PM Functions of the Spleen: How and Why to Save Them
J. Raymond Hinshaw, MD
Chief of Surgery
Rochester, NY, General Hospital

2:30 PM The Continuing Revolution in Health Care Delivery
Everett R. Rhoades, MD
Assistant Surgeon General
Director, Indian Health Service

3:00 PM Establishment of Health Care Policy in the United States/Positive Initiatives for Medicine to Influence Federal Policy
Edward N. Brandt, Jr., MD, PhD
Chancellor, University of Maryland at Baltimore

4:00 PM Exhibitors Reception

Specialty Society Meetings

Once again many specialties will meet in conjunction with the OSMA. The following groups will meet on Saturday, May 4:

- Oklahoma Section, American College of Obstetricians and Gynecologists
- Oklahoma Society of Anesthesiologists
- Oklahoma Society of Plastic Surgeons
- Oklahoma Branch, American Psychiatric Association
- Oklahoma Chapter, American College of Emergency Physicians/Oklahoma State Department of Health Division of Emergency Medical Services
- Oklahoma Society of Internal Medicine (OSIM will sponsor an office manager's seminar on Friday, May 3)
- OSMA Medical Students
- University of Oklahoma Surgery Section

The OSMA specially welcomes the Oklahoma Chapter of the American Association of Medical Assistants, which will hold its 37th Annual Meeting in cooperation with the OSMA.

Board of Trustees and House of Delegates

Board of Trustees, House of Delegates, and Reference Committee meetings will be in the Skirvin Plaza Hotel.

Wednesday, May 1

1:30 PM OSMA Board of Trustees Annual Meeting

Thursday, May 2

9:00 AM OSMA House of Delegates Opening Session

10:30 AM House of Delegates Reference Committees

Friday, May 3

7:30 AM OSMA Past Presidents' Breakfast

6:00 PM OSMA President's Reception
Sheraton Century Center

7:00 PM OSMA President's Inaugural Dinner Dance
Sheraton Century Center

Saturday, May 4

12:30 PM OSMA House of Delegates Closing Session

OSMA Auxiliary Program
Sheraton Century Center

The education programs and luncheon sponsored by the OSMA Auxiliary are open to all physicians and spouses. For complete program, see page 43A.

OSMAA Raffle

Prize for this year's Auxiliary raffle is a breathtaking diamond and ruby pendant from Miss Jackson's, Tulsa. Drawing for this exquisite piece will be held on Friday, May 3, during the President's Inaugural Dinner Dance. Proceeds from the raffle go to the OSMAA Nurses' Loan Fund.

OSMAA Auction

Another first for this year's Annual Meeting will be an auction sponsored by the OSMAA to benefit the American Medical Association Education and Research Foundation (AMA-ERF).

Items auctioned will range from original watercolors to a week of skiing in Colorado.

The OSMAA is grateful to the University of Oklahoma College of Medicine Alumni Association for allowing the auction to take place on Thursday, May 2, during the reception preceding their Annual Dinner.

Social Events

Thursday, May 2: University of Oklahoma College of Medicine
Alumni Dinner
Sheraton Century Center

Break out your double-breasted suits and all your flapper finery for the University of Oklahoma College of Medicine Alumni Association's "Roaring Twenties" Dinner and Party.

Come dressed as your favorite gangster or moll and you just might win a prize.

Reception begins at 6:00 PM and dinner at 7:00 PM.

Martin C. Jischke, interim president of the University of Oklahoma, is the evening's featured speaker.

(continued)

(Social Events, continued)

Friday, May 3: OSMAA Luncheon
Sheraton Century Center

Physicians are invited to join their spouses at the OSMAA's annual luncheon. Entertainment will be provided by Helen Lange, Oklahoma City soprano, who will offer selections from "Fiddler on the Roof."

The luncheon begins at 12:30 PM.

Friday, May 3: President's Inaugural Dinner Dance
Sheraton Century Center

A formal cocktail reception at 6:00 PM will begin the OSMA President's Inaugural Dinner Dance. Dinner will be served at 7:00 PM.

The honor of your presence is requested to show our appreciation for James B. Eskridge III, MD, Oklahoma City, current OSMA President, and to welcome President-Elect Elvin M. Amen, MD, Bartlesville.

Special guest speaker will be Jim Gillie, assistant to the vice-president of public affairs, Phillips Petroleum Company.

Sports Events

Tennis

OSMA tennis competition will be held at the Woodlake Racquet Club, 6901 Northwest 63, Oklahoma City, on Thursday, May 2. Men's singles and doubles will begin at 8:45 AM. There will be two divisions in men's singles competition: Open (age 49 and under) and Senior (age 50 and over). Entry fee for men is $20.00 for one event and $30.00 for both.

The women's Round Robin Doubles Tournament will begin at 9:00 AM. The entry fee for ladies is $10.00.

Golf

Edmond's Kickingbird Golf Course will host the OSMA Golf Tournament on Thursday, May 2. Entry fee is $10.00. Golfers will be responsible for greens fees and cart rentals.

Tee time is 1:30 PM.

Registration and Ticket Orders

To participate in any sports or social functions you must preregister and purchase tickets in advance using the forms provided in the information packet mailed to all members in March and April. The packet also contains forms for hotel room reservations, or reservations may be made directly with the hotels: Skirvin Plaza Hotel, (405) 232-4411, and Sheraton Century Center, (405) 235-2780.

Miscellaneous Advertisements

INTERNAL MEDICINE PRACTICE or partnership available. Annual gross of $386,000 achieved on part time basis. Appraisal of $230,000, including modern equipment. Reply with CV to Box R, Journal of the Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118. tf

TEXARKANA, ARKANSAS — Medical Director — Pinewood Hospital, 60 beds, open in Fall of '85. Position offers opportunity for development of private practice either individually or with group. Liberal relocation and compensation package. Board Certification or Eligible. Contact: Joe C. Waters, Administrator, 1600 Arkansas Blvd., Suite 204, Texarkana, Arkansas 75502, (501) 773-3131. 3

MEDICAL OFFICE SPACE AVAILABLE IN ARDMORE, OKLAHOMA beginning after December 1984. Established Clinic which currently has three General Practice physicians. Office, full lab, billing, insurance, and office x-ray available. Across street from Memorial Hospital of Southern Oklahoma. Send C. V. and three references to: Medical Center Clinic, Scott M. Malowney, MD, 1025 15th NW, Ardmore, Oklahoma 73401. 4

WANTED — GYNECOLOGIST, board certified or board qualified and/or 2 obstetrician-gynecologists board certified or board qualified to join established practice in midwestern city. Excellent opportunity and facilities. 360 bed hospital. Please send resume to PO Box 2397, Muskogee, OK 74402. tf

DIRECTOR ER SERVICE wanted. Contact (405) 271-7977, I.H.P., Suite 314, 777 N.W. Grand Blvd., Oklahoma City, OK 73118. 4

FOR SALE: Three exam tables, three Welch Allyn halogen oto ophthalmoscope wall units and three wall-mounted sphygmomanometers. Jon Tillinghast, MD. 13516 Pecan, Edmond. 4

ORTHOPEDIC SURGEON BE/BC. Opportunity to develop substantial practice in northwest Oklahoma. New hospital, equipment. Extremely supportive community produced this regional health care center, the finest in the state. Excellent school system. Family oriented lifestyle. Recreational variety abounds. Reply Box WF-1, OSMA Journal, 601 NW Expressway, Oklahoma City, OK 73118.

RN DESIRES EMPLOYMENT — doctor's office, clinic. Salary negotiable. Contact after 5 PM: (405) 946-2757. 4

PRACTICE OPPORTUNITIES — 30-physician multispecialty clinic needs bd. certified/eligible ENT, Urologist and Orthopedist. Clinic also needs FAMILY PRACTICE PHYSICIAN for satellite clinic located 20 miles from main clinic. Satellite well equipped with lab and x-ray. Excellent guaranteed salary first year plus productivity after six months, pension and profit sharing, generous vacation and CME time, early partnership, and many other fringe benefits. Interested physicians should send CV to Jeanie Bledsoe, Physician Recruiting, Chickasha Clinic, P.O. Box 1069, Chickasha, OK 73023. 6

TEXARKANA, ARKANSAS — Clinical Director — Pinewood Hospital, 60 beds, open in Fall of '85. Position offers opportunity for development of private practice either individually or with group. Liberal relocation and compensation package. Board Certification or Eligibility desirable. Contact: Joe C. Waters, Administrator, 1600 Arkansas Blvd., #204, Texarkana, Arkansas 75502, (501) 773-3131. 3

OKLAHOMA & OVERSEAS . . . Primary care physicians needed for locum and permanent placements in OK, Saudi Arabia, and southwestern US. Excellent financial package, practice management, and affiliation with a dynamic healthcare company. CV to: Beverly Froley — Centaur International, 2310 Mason Street, San Francisco, CA 94133 4

SURGEON — Excellent practice opportunity. Reply Box F, The Journal, Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118. 5

RADIOLOGIST — Excellent practice opportunity. Reply Box G, The Journal, Oklahoma State Medical Association, 601 Northwest Expressway, Oklahoma City, OK 73118. 5

ER PHYSICIANS WANTED. Fulltime and parttime. Contact (405) 271-7977. Dir., Emergency Physician Service, I.H.P., Suite 314, 777 N.W. Grand Blvd., Oklahoma City, Oklahoma 73118. 1

DALLAS/FT. WORTH NEEDS PHYSICIANS. Full-time phyisician positions for general practice/internal medicine clinics. Partnership available in one year. Excellent opportunity. Write or call: S. K. Kechejian, MD; 609 S. Main St.; Duncanville, TX 75116; (214) 780-0093.

WANTED: Physician for emergency room — Send resume to: Administrator of the Community Hospital, West Second St. & Lincoln, Elk City, OK 73644. Phone: (405) 225-2511. 5

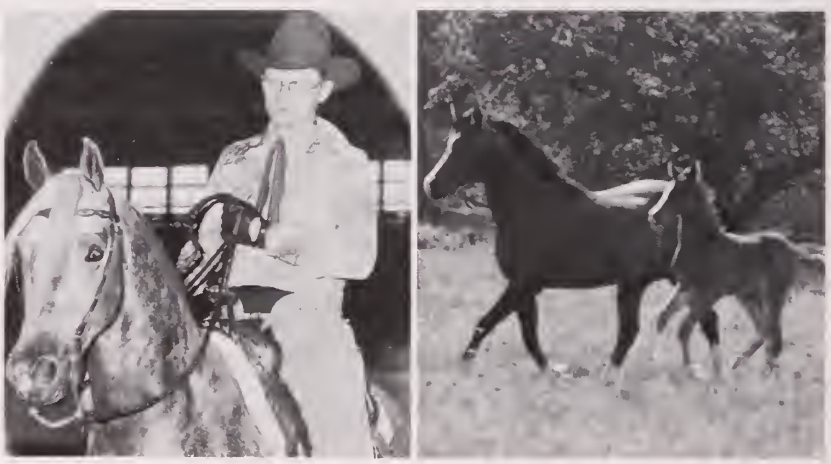
79th Annual Meeting

May 2-4
Oklahoma City

DISCOVER THE WORLD OF THE ARABIAN HORSE



SILVER PATRIOT



"Prized for its beauty, admired for its versatility."

For almost 4,000 years the Arabian horse has been revered by mankind. Today, the Arabian is a tough competitive showhorse, a valued breeding animal, and a wonderful family horse. Recently, much attention has been focused on the Arabian horse industry by the financial press and those recognizing the opportunities afforded by this tax-advantaged investment.

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Edmond, OK
341-3891

efore prescribing, see complete prescribing information in SK&F CO. terature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of Dyrenium (triamterene, SK&F CO.) and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

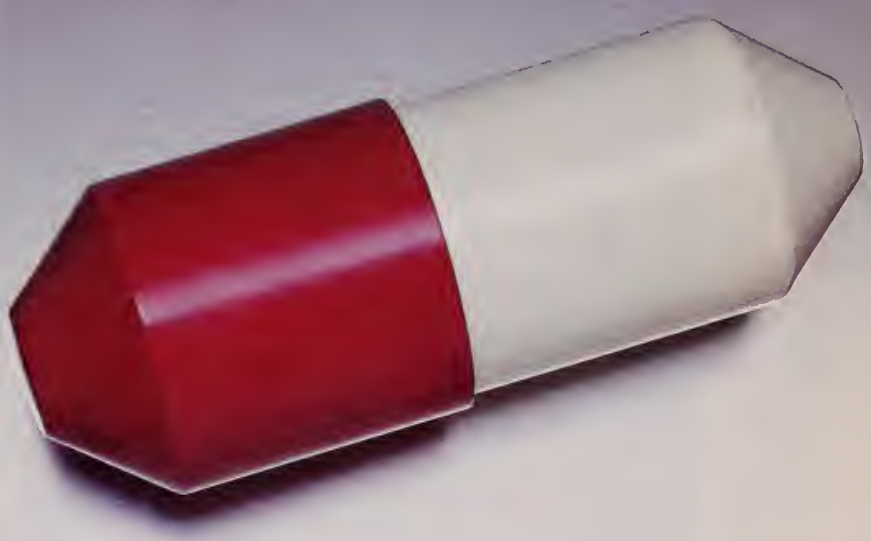
Supplied: **'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules, Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.**

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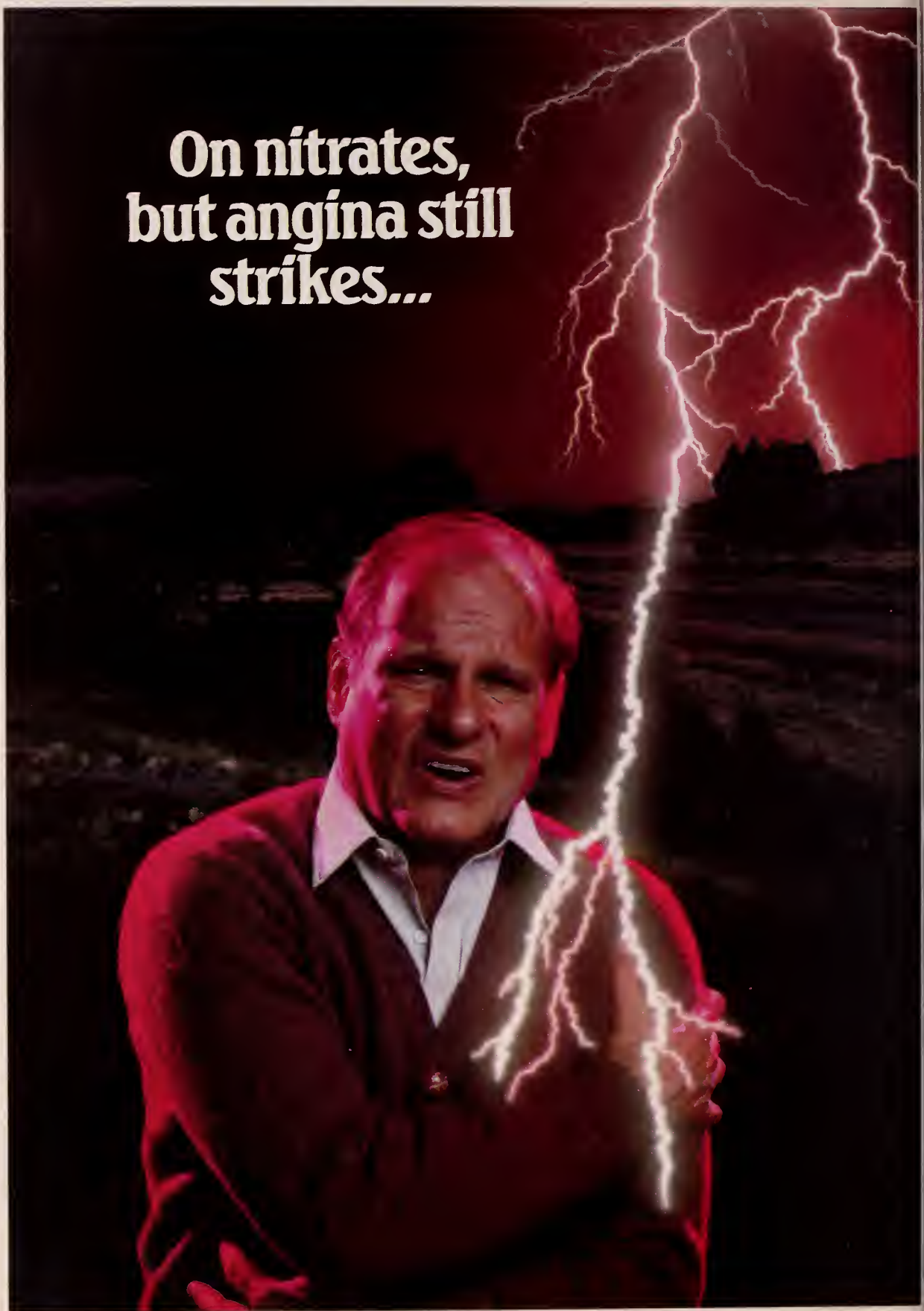


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To protect your patients, as well as their quality of life, add Isoptin instead of a beta blocker.

First, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

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With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.



ISOPTIN. Added antianginal protection without beta-blocker side effects.

Please see brief summary on following page.

ISOPTIN® TABLETS
(verapamil HCl/Knoll)
80 mg and 120 mg

Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C.* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

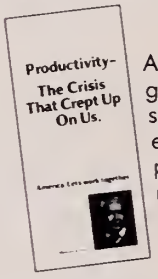
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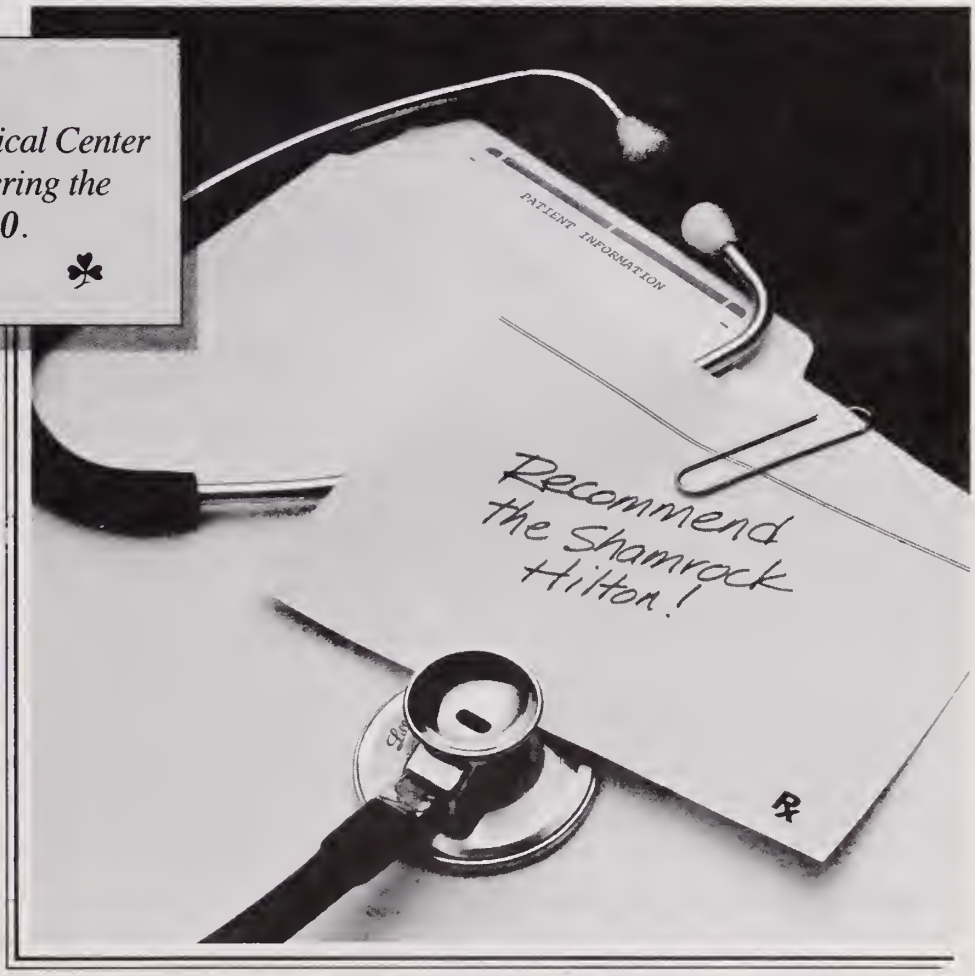
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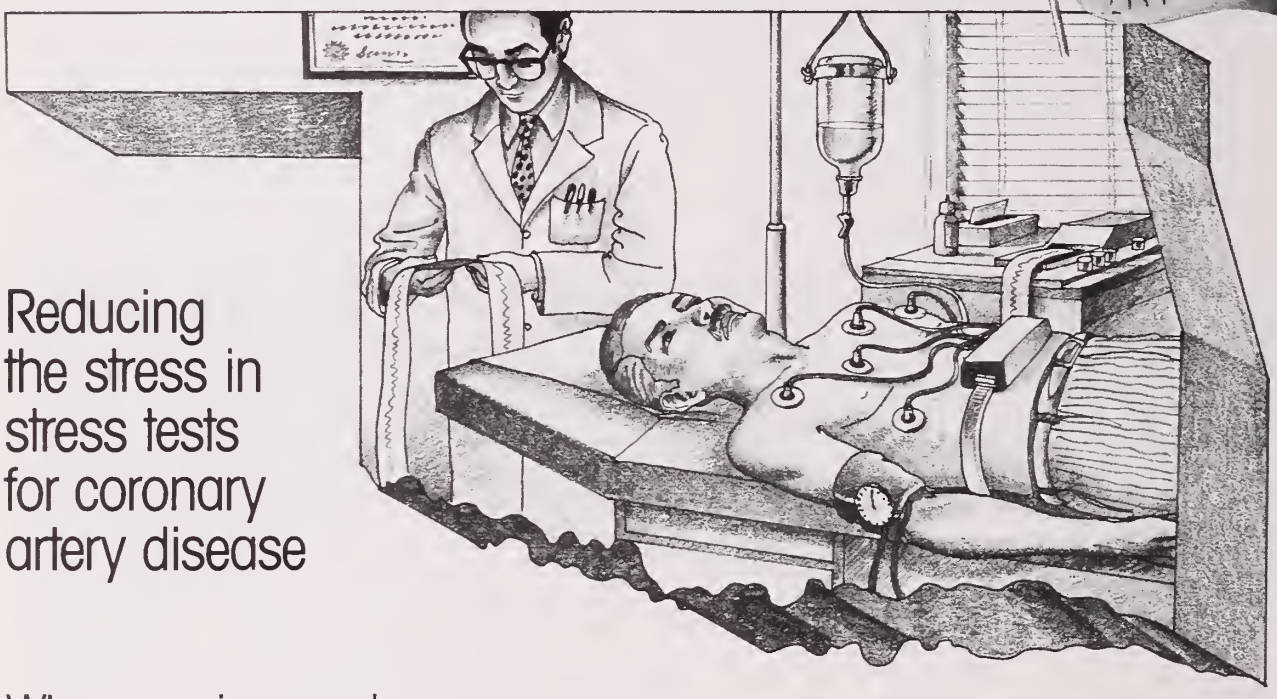
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Reducing the stress in stress tests for coronary artery disease

When exercise may be contraindicated

Many patients with chest pains cannot exercise adequately. Yet traditional stress tests require patients suspected of having coronary artery disease to perform treadmill or bicycle exercise involving vigorous leg motions.

Recognizing the inherent limitations of such testing, researchers at the Veterans Administration Medical Center and the University of Oklahoma Health Sciences Center joined in efforts to develop an alternative method which would be equally useful in evaluation while eliminating some of the disadvantages.[1,2]

Investigating epinephrine infusion

Investigational studies were undertaken on the basis of the physiologic response to intravenous epinephrine infusion in patients with chest pains. Arterial blood pressure, systolic time intervals and ECG measurements were recorded before, during and after the infusion.

Encouraging results to consider

While the patient sample was statistically small, the results were significant. The predictive value of a positive test for coronary disease was 100%, while the predictive value of a negative test for excluding coronary disease was 80%.[2]

Additionally, none of the patients suffered complications from the epinephrine infusion, nor were there signs of agitation or anxiety during the test period.

Further, epinephrine infusion has some specific advantages: since exercise is not required, patients with pulmonary disease, neurologic defects, peripheral vascular disease or other problems precluding exercise can be tested. The patient's cooperation is not required, the equipment requirements are minimal and inexpensive and, since the patient is lying quietly during the tests, other measurements may be taken concurrently, resulting in a saving of technician time.[1,2]

References: 1. Treadmill test alternative. *Diagnosis*, Jul 1983, p 11. **2.** Schechter E, Wilson MF, Kong Y-S: *Am Heart J 105*:554-560, Apr 1983.

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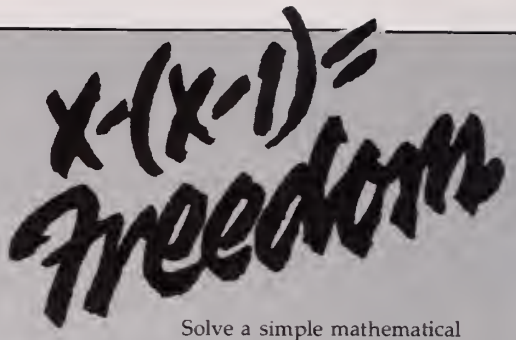
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*Feighner JP, *et al. Psychopharmacology 61*:217-225, Mar 22, 1979

Please see summary of product information on following page.

LIMBITROL® Ⓝ Tranquilizer-Antidepressant
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated, sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.
Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.
How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100; Prescription Paks of 50.

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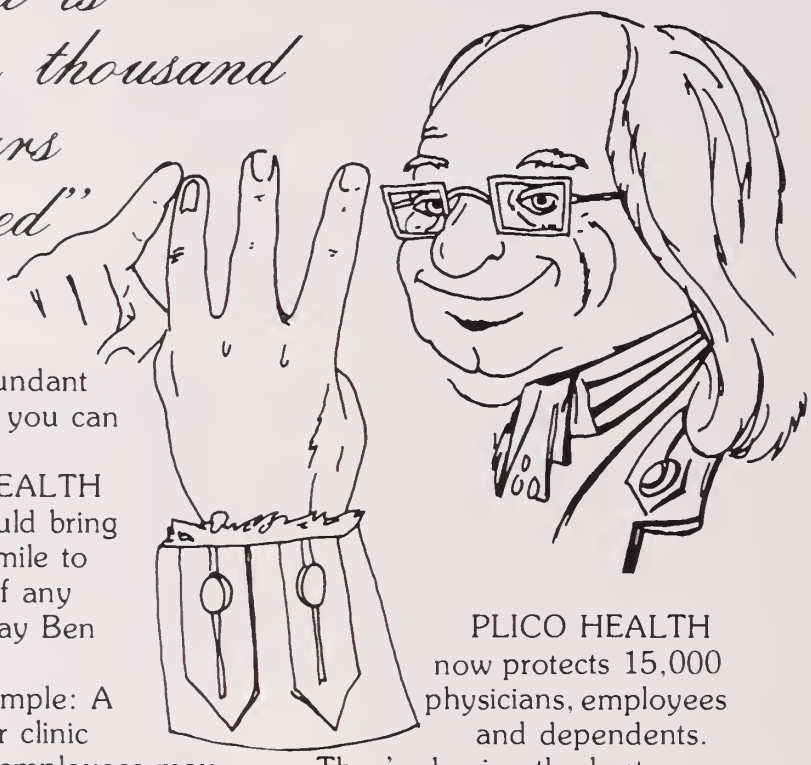
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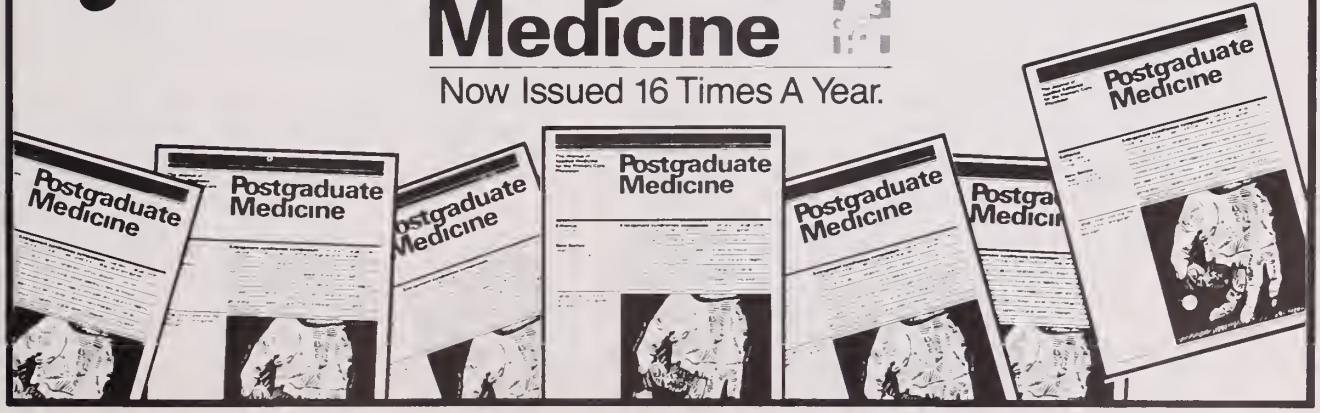
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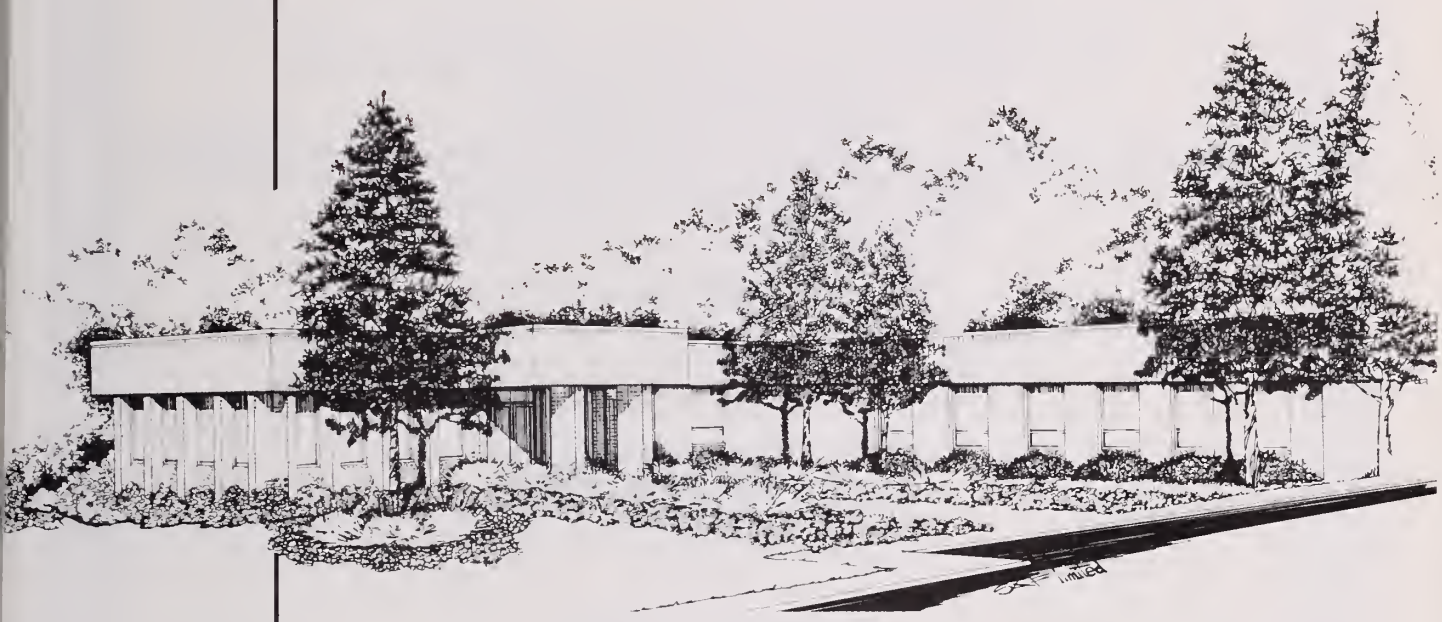
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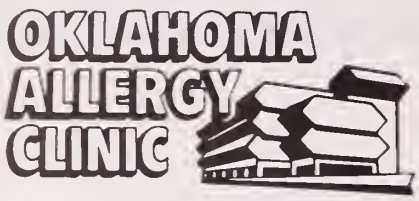
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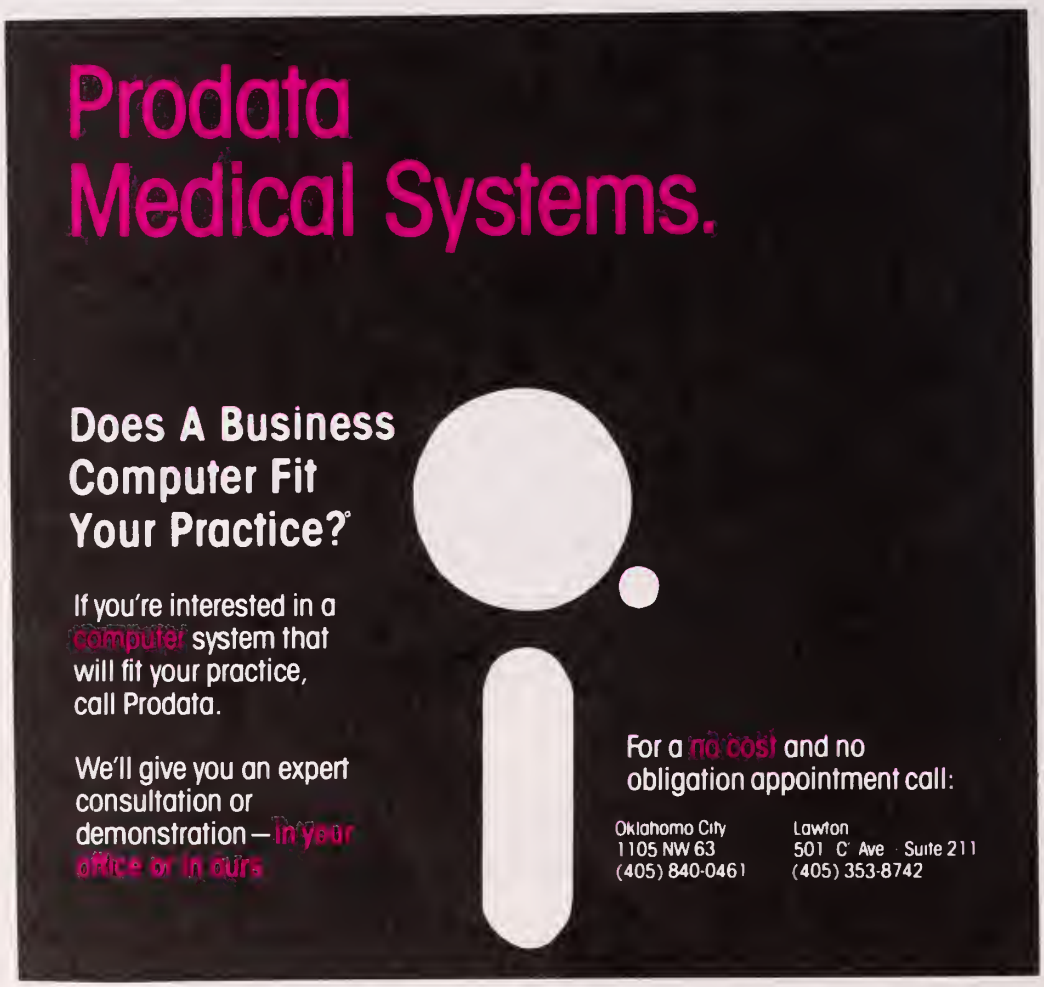
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Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

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All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

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Authors will receive reprint order forms from the Transcript Press, PO Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

OSMAA 1985 ANNUAL MEETING

May 2-4 **Sheraton-Century Center** **Oklahoma City**

Schedule of Events

Thursday, May 2

8:30 AM	Registration & Hospitality
8:30 AM	Nurses Loan Fund Committee
9:30 AM	Long Range Planning Committee
10:00 AM	Pre-Convention Executive Board Meeting
12:30 PM	Joint Board Luncheon 1984-85 and 1985-86 Executive Board Members
2:00 PM	Investment Seminar for Women Mrs Linda Kimler — Smith-Barney Investments
4:00 PM	Reception — Skirvin Plaza Exhibit Hall
6:00 PM	OU Alumni Dinner "Roaring 20s" Theme AMA-ERF Auction

Friday, May 3

7:30 AM	Registration & Hospitality
7:30 AM	Past State President's Breakfast
7:30 AM	County President's Breakfast 1984-85 County Presidents, 1985-86 County Presidents and Presidents-Elect
9:00 AM	House of Delegates Installation of Officers AMA Auxiliary President Billie Brady, Guest
12:30 PM	Luncheon
2:00 PM	"Our High Technology Future" Mike Knight, PhD, Central State University
3:00 PM	Reception for Members-at-Large and RP/MSS Members AMA Auxiliary President Billie Brady, Guest
4:00 PM	Reception — Skirvin Plaza Exhibit Hall
6:00 PM	OSMA President's Inaugural Dinner & Dance

Saturday, May 4

7:30 AM	Hospitality
9:00 AM	Post- Convention Executive Board Meeting

Other Activities

Sporting events will be listed in the program mailed to members in March and April.

Tickets for tours may be purchased in advance or at registration desk.

Tickets for the OU Alumni Dinner, County President's Breakfast, Friday Luncheon, and President's Inaugural Dinner must be purchased in advance.

■ **An Ad Hoc Committee has been appointed by** Warren Felton, MD, to review applications for the position of Executive Director of the Oklahoma County Medical Society. Interested applicants should forward resumes to the Oklahoma County Medical Society office at 601 Northwest Expressway, Oklahoma City, OK 73118 as soon as possible.

■ **Physicians overwhelmingly expect increasing** pressure from government and business to contain costs. The AMA Department of Survey and Opinion Research reported that 87% of the physicians in a survey said that government or business pressures on medicine to contain costs would increase in the near future, while only 1% said that the pressures would decrease. In an annual telephone poll of 1,000 physicians, 53% of the respondents said that businesses and corporations in their communities have become more involved in medical care issues such as cost containment over the past year, while only 3% said the businesses and corporations had become less involved.

■ **OSMA President James B. Eskridge III, MD,** reminds Oklahoma physicians that the federally mandated Medicare freeze of physicians' fees remains in effect until October 1, 1985. "Non-participating" physicians who raise their billed charges to Medicare patients before the fee freeze expires are subject to civil penalties.

The voluntary fee freeze for all patients, which was requested by the AMA and OSMA, ended on March 1.

■ **Westernization of the Asian eyelid has become** a topic of increasing importance among surgeons, according to a report by Ronald S. Matsunaga, DDS, MD, in the March *Archives of Otolaryngology*. He attributes heightened demand for the procedure to the recent influx of Asian immigrants, and says he has performed more than 2,000 procedures aimed at giving oriental eyes an occidental look. Most surgeons settle for creating an eyelid fold, Matsunaga says. His technique includes removal of the epicanthal web (the vertical folds of skin on either side of the nose) to complete a westernized appearance. "This is elected in almost 50% of our patients." Matsunaga is an otolaryngologist at the University of Southern California in Los Angeles.

■ **Hospitals across the nation have cut utilization** in response to tighter Medicare payment policies, but the hardest hit have been small hospitals in rural areas, according to a report in *American Medical News*. Senior Editor Douglas Lefton says the average census for hospitals with less than fifty beds plummeted to 34%, compared to 65% for all hospitals. Hospitals with less than twenty-five beds were consistently in the red last year, with expenses exceeding revenues by 7% in the first ten months. "There are 224 of these hospitals, 82% of which are in rural areas," Lefton says.

■ **"Cost Containment Checklist," a 9-page publication** released by the AMA, describes many practical ways in which physicians can reduce costs. The booklet updates an AMA checklist published in 1978. Individual copies are available at no charge from the Department of Health Care Financing and Organization, AMA Headquarters, Chicago.

■ **Decreased lymphocyte function appears to be** associated specifically with clinical depression and not with effects of hospitalization or with other psychiatric disorders, according to a study from New York's Mount Sinai School of Medicine. Writing in the February *Archives of General Psychiatry*, Steven J. Schleifer, MD, and colleagues say they compared lymphocyte responses of ambulatory patients with major depressive disorder to those of matched controls. They also compared responses of hospitalized schizophrenic patients with those hospitalized for elective surgery. Study results suggest that "altered immunity in depression may be related to severity of depressive symptoms," they say.

■ **"Bylaws: A Guide for Hospital Medical Staffs"** is an 88-page monograph that helps clarify organizational mechanisms between administrative and clinical aspects of care. The AMA publication reflects recent changes in the standards of the Joint Commission on Accreditation of Hospitals. The publication is available for $15 a copy, less 10% for AMA members, from AMA Order Department (OP-351), PO Box 10946, Chicago, IL 60610. The handling charge is $1.50. The delivery charge is $2 for one copy and $2.50 for two to six copies. For information on quantity discounts, call 321-280-7168.

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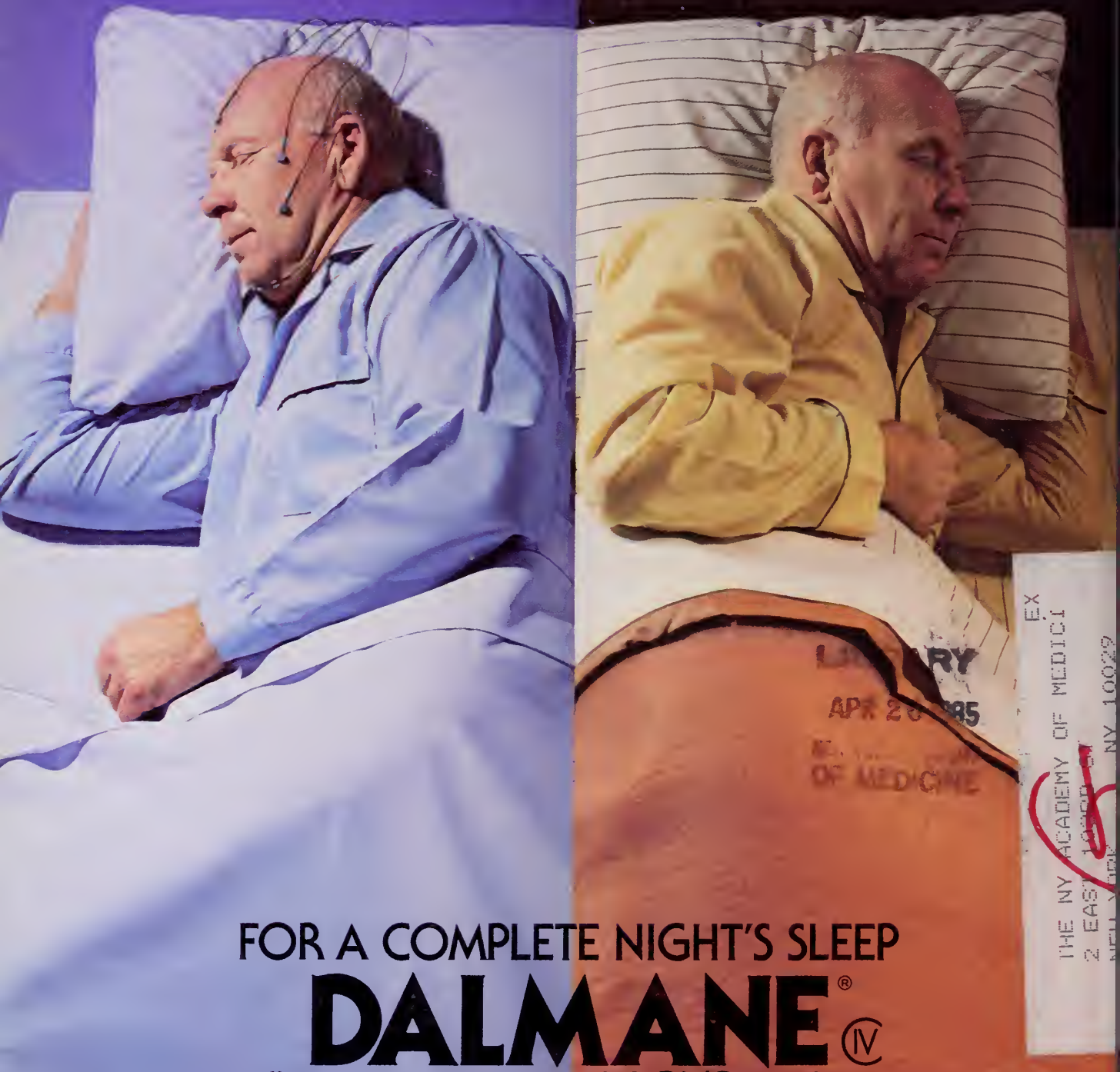
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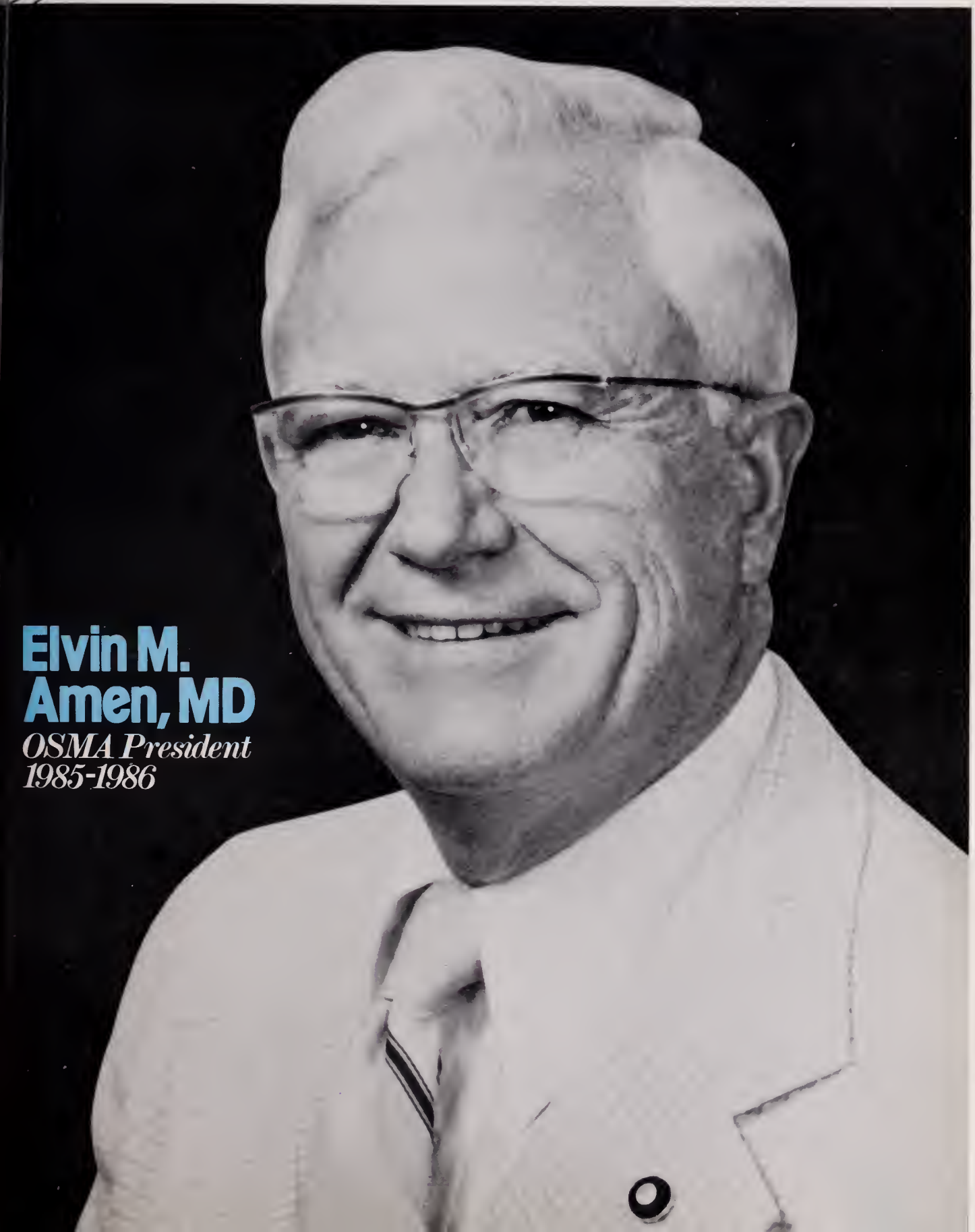


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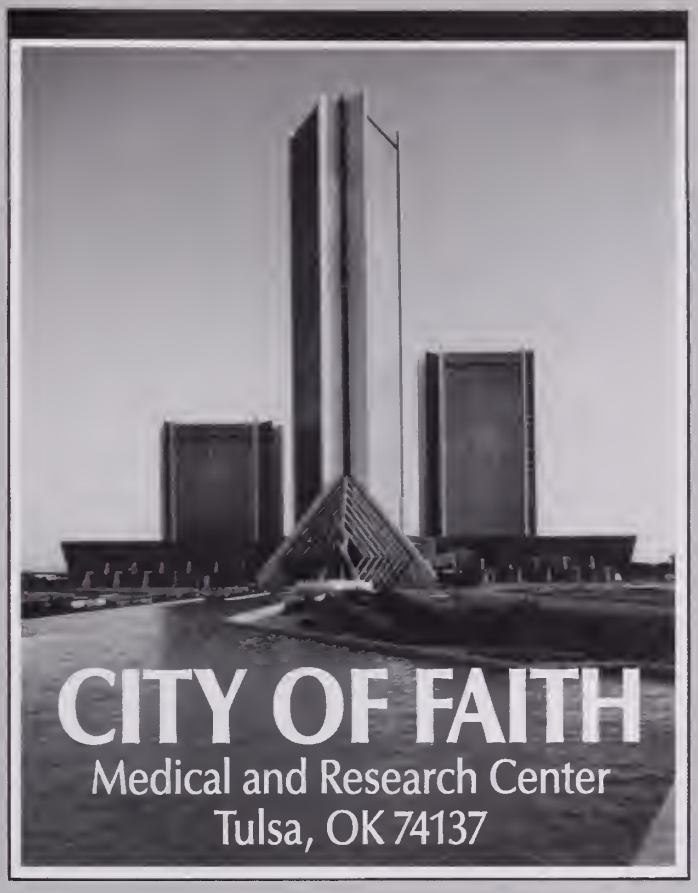
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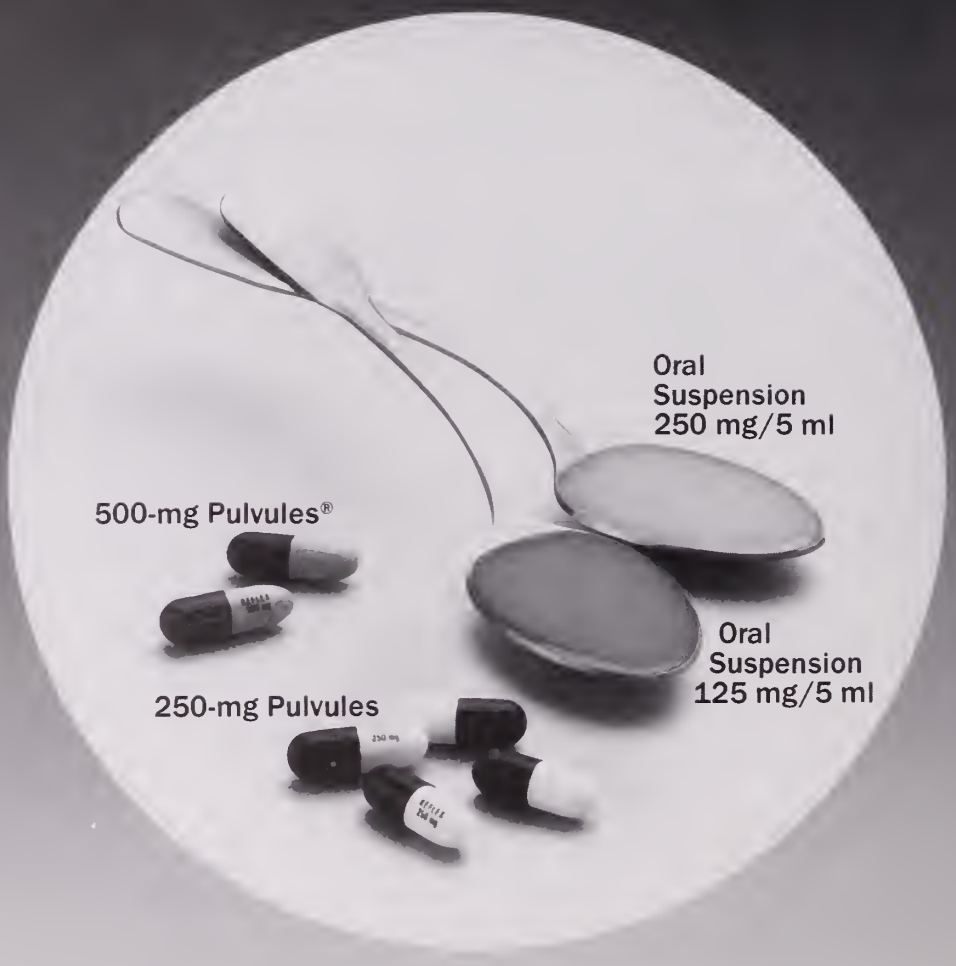
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Too Bad to Be True

Occasionally while reading what purports to be a news story I am overcome by a sense of being lost in the archives of fiction; Alice in Wonderland, The Wizard of Oz, or The Arabian Nights. Not infrequently I discover that what I had read was indeed a heterogenous mixture of fiction and fact. Having learned years ago that my most profound wisdom results from the exercise of my poorest judgment, I attempt to practice discretionary skepticism before accepting any item of reported news as factual.

Very recently I read a news story which serves as the archetypical illustration of my point. I found it on the front page of the *Medical Tribune,* Volume 26, Number 12, dated Wednesday, April 24, 1985. It carries the byline of Pat Costello Smith and is captioned "Force MD Participation?" The lead paragraph of the story, which bears a Boston dateline, reports:

> A bill that would revoke the medical licenses of Massachusetts physicians who refuse to accept Medicaid patients, sponsored by 19 state senators and assemblymen and backed by dozens of advocacy groups, has brought to a head issues involving physician participation in the federal-state program that provides [*sic*] medical care to 440,000 Bay Staters.

and goes on to describe some details and reactions which, in my opinion, do not modify, neutralize, or compromise the sanquinary impact of the cited paragraph.

As if mesmerized, I read the full story three times before I realized that with each reading I was drifting further into the world of abstract fiction. Surely this could not be an accurate recitation of fact. If so — and I imply absolutely no challenge to the accuracy of the story — the very worst of our nightmares about the future have achieved hideous reality, years before even the most pessimistic of our chroniclers predicted. How *could* it be true?

Boston, the home of Paul Revere, whose voice must once again be echoing, "The British are coming, the British are coming!" Boston, whose Old Granary Burying Ground still contains the remains of John Hancock, Samuel Adams, and Robert Paine. Boston, the site of a cherished tea party in 1773.

Boston, known for more than 200 years as *The Cradle of Liberty,* may be on the verge of placing a new headstone in its hallowed ground. Freshly chiseled, the epitaph will read:

LIBERTY
Born 1776 - Died 1985

—MRJ



Lucile and I wish to thank you, the physicians of Oklahoma, for allowing me to serve as president of our Oklahoma State Medical Association. Our previous presidents have set a standard of excellence that will give me a tremendous challenge.

I urge you to "Get Involved — Participate," not only in local, state, and national medical activities, but also in local, state, and national civic and service fields.

We must work together to restore our profession to the number one spot in the hearts of our people.

With help and support from every one of you, I know we can do it.

I am looking forward to serving you for the next twelve months.

Sincerely,

Elvin M. Amen, M.D.

Oral Anticoagulant-Induced Femoral Nerve Entrapment

CLAYTON L. WOOD, MD and ROBERT WHANG, MD

Hemorrhage in patients taking oral anticoagulants, if not recognized and corrected, may result in femoral nerve compression and irreversible nerve palsy.

It is important for clinicians to recognize that sudden unilateral lower extremity weakness associated with hip pain can result from femoral nerve compression in patients being treated with anticoagulants. Femoral nerve entrapment occurring during a course of heparin therapy or a hemorrhagic diathesis is well documented. Tallroth first reported the syndrome of iliacus muscle hemorrhage in a hemophiliac in 1939.[1] However, the association of femoral nerve compression by retroperitoneal hematoma in patients on oral anticoagulant therapy occurs with much less frequency. In the literature we have identified six cases of femoral nerve entrapment in patients on oral anticoagulant. The purpose of this communication is to report two additional cases and to discuss the clinical features and pathophysiology of oral anticoagulant-induced femoral nerve entrapment.

Case 1: An 84-year-old white man on Coumadin therapy for three years for recurrent pulmonary embolism presented with a two-day history of right leg, hip, and flank pain. He denied recent trauma to his hip or leg but had noted gingival bleeding and epistaxis for several days prior to onset of his hip pain. Prothrombin time one month prior to admission was 13 seconds (control 11 seconds), and his anticoagulant dosage had been increased at that time to 2.5 mg alternating with 5 mg every other day.

On examination, it was noted that the patient was keeping his right leg flexed at the hip. He was unable to stand due to pain and weakness of his hip and leg. Weakness of the right quadriceps femoris muscle and decreased patellar reflex was noted on that side. Decreased sensation over the lateral aspect of the right thigh and patella was also noted on examination.

The pulse was 108/min on admission, and blood pressure was 95/54 mm Hg. There was no ecchymosis or evidence of trauma. Femoral and pedal pulses were present. Abdominal examination disclosed right lower quadrant tenderness. No mass was palpated. Rectal examination disclosed no tenderness. Stool was guaiac positive. Hemoglobin was 9.0 gm%, hematocrit 27%, and the prothrombin time was elevated at 35 seconds. Urinalysis revealed pyuria and hematuria.

The patient initially received blood transfusion, fresh frozen plasma, and vitamin K. A CT scan of the abdomen and pelvis showed enlargement of the right iliacus and psoas muscles (Fig). A retroperitoneal mass (probably a hematoma) displacing the right kidney and ureter anteriorly was also noted. The patient was initially placed at bedrest, and over the next few days his symptoms decreased and his blood count stabilized. He was seen in the clinic two months after discharge with persistent weakness of his right hip and leg. A repeat CT scan at that time showed resolution of the mass (hematoma) with return of the iliacus and psoas muscles to their normal size.

Case 2: A 53-year-old woman had been well controlled on Coumadin therapy for two years following valve replacement for rheumatic valvular disease. She presented with a two-day history of left inguinal pain radiating to the back and a sharp pain radiating down the anterior aspect of the left thigh. She gave no history of recent trauma.

Her blood pressure was 160/65 mm Hg with a pulse of 80/min. She kept her left leg flexed and immobile, and she experienced pain with movement of the leg. Weakness of the left quadriceps femoris muscle and an absent left patel-

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lar reflex were noted. A complete loss of light touch over the anterior left thigh with inability to differentiate dull from sharp sensation was observed. There was no abdominal tenderness or palpated mass. Result of a stool examination was guaiac negative, and there was no hematuria on urinalysis. Prothrombin time was 27.7 seconds, the hemoglobin was 12.7 gm% and hematocrit 37%. She was initially thought to have hemarthrosis of the left hip joint. Review of the case by the attending physician correctly diagnosed femoral nerve compression and palsy. Ultrasound demonstrated displacement of left ureter by a retroperitoneal mass, thought to represent a hematoma. An electromyogram (EMG) revealed a left femoral nerve neuropathy consistent with femoral nerve entrapment. Coumadin was discontinued and intravenous vitamin K administered. The patient recovered with some residual weakness of the left leg.

Discussion

A search of the English literature has yielded only six cases of femoral nerve entrapment occurring in patients receiving oral anticoagulant therapy. Considering the large numbers of persons who receive oral anticoagulants, this complication would appear to be rare. However, this may not be a true picture, as many such cases may be unreported or even go unrecognized. The table summarizes the six cases previously reported in the literature.

Clinical Features

Pain was the presenting symptom in each of these eight patients. It usually started in the affected groin and spread to the thigh or lumbar area. The onset of symptoms was sudden in some of the patients, but in others, as in the two patients presented here, pain progressed for two days before the patient sought medical attention. A mass palpated in the iliac fossa was reported in one case.

In only one case was trauma reported as a precipitating event.[2] Two patients were taking additional medication that could have prolonged the effect of anticoagulant therapy[3] or were taking their medication erratically.[4] Most of the reports describe patients who were thought to be well controlled on their medication. One of the patients reported here had a recent adjustment of his medication dose and a urinary tract infection which may have contributed to the hemorrhage.

On presentation, the hip is usually held in flexion and lateral rotation. Extension or internal rotation of the hip exacerbates the pain. Weight bearing requiring extension of the hip was not tolerated by either of our patients.

The onset of pain usually signals the beginning of the nerve compression, but it may be several days before the femoral nerve palsy becomes evident.[5] The



Fig. Pelvic CT scan of Case 1 showing enlargement of the right iliacus and psoas muscles due to hemorrhage within the muscle bodies. Also noted is anterior displacement of the right ureter.

nerve palsy is usually limited to the distribution of the femoral nerve and may become complete if unrecognized and allowed to progress. Paralysis of the quadriceps femoris muscle and loss of patellar tendon reflex on the involved side occur. Sensory loss over the thigh is variable due to the degree of overlap of adjacent nerves, but loss of sensation over the patella usually occurs.

Anemia developing a few days after the onset of symptoms is common, but the blood loss usually is not severe enough to cause shock. Transfusion may be required, as in one of our cases. Ecchymosis of the abdomen or thigh was noted in three cases previously reported.[2,4]

Anatomy

The femoral nerve is the largest branch of the lumbar plexus (L2-4). It emerges through the fibers of the psoas muscle at its lower lateral border and descends between the iliacus and psoas muscles, passing behind the inguinal ligament within a groove formed by these two muscles into the thigh. Its motor branches supply the iliacus, pectineus, quadriceps, femoris, and sartorius muscles. Sensory branches supply the distal two-thirds of the anteromedial portion of the thigh and the medial portion of the leg.

The iliacus fascia forms compartments from the iliacus and psoas muscles which are separate except for a communication beneath the inguinal ligament. When Goodfellow et al injected large quantities of fluid beneath the fascial sheath of the iliacus muscle, a tense globular swelling occurred.[5] When additional fluid was injected beneath the iliacus fascia, fluid passed through the common compartment under the inguinal ligament and into the psoas sheath. The

Table — Documented Cases of Femoral Neuropathy Occurring in Patients Taking Oral Anticoagulants

Case	Drug	Reason for Anticoagulation	Coagulation Studies	Clinical and Laboratory Findings	Outcome	Source
1. 62 y/o M	Phenindione	Myocardial infarction	PT >60 seconds	Right femoral nerve palsy. Mass below L costal margin and R iliac fossa. On antibotics. Hgb = 4.5 gm/ 100 ml. Required transfusion	Partial recovery at 1 month	Lange[4]
2. 53 y/o M	Phenindione	Myocardial infarction	PT 26 seconds	Right femoral nerve palsy. Multiple superficial bruises	Slight improvement	Lange[4]
3.	Phenindione	?	?	?	?	Goodfellow et al[5]
4. 62 y/o F	?	Right hemiplegia	PT 38 seconds	Traumatic fall 8 days earlier. Left femoral nerve palsy. Multiple bruises	Moderate improvement	Gertzbein and Evans[2]
5. 51 y/o M	Sodium warfarin	Phlebitis	PT 42.7 minutes (control 11.7 min)	Left lower quadrant tenderness. Left femoral nerve palsy. Hgb = 5.7 gm/ 100 ml. Palpable mass LLQ. Transfused 6 units	Complete recovery 4 months	Butterfield et al[10]
6. 32 y/o M	Sodium warfarin	Pulmonary emboli	?	Right femoral neuropathy. Laparotomy with evacuation of hematoma	No functional disability at 1 year	Young and Norris[9]

result was swelling of both muscle bodies, compressing the femoral nerve in a deep groove proximal to the inguinal ligament.[5]

Brower and Wilde[6] injected saline into the iliacus fascia of fresh cadavers and showed that distension of the iliacus and psoas muscles alone did not explain the characteristic findings of hip flexion and lateral rotation seen in patients with femoral nerve entrapment. However, by passing a long needle into the iliacus fascia proximal to the inguinal ligament and then into the tendinous junction of the iliopsoas muscle, they did succeed in producing this posture and swelling in the femoral trigones of the cadavers.[6] They proposed that the femoral neuropathy was caused by a partial rupture of the iliopsoas muscle at the musculotendinous junction near the lesser trochanter and that the resulting hemorrhage passed beneath the iliacus fascia, compressing the femoral nerve against the inguinal ligament.

Kettlekamp and Powers[7] surgically explored a patient who had been on heparin therapy and had symptoms suggesting femoral nerve entrapment. They noted a large, tense hematoma within the iliacus fascia distal to the inguinal ligament, with elevation and compression of the femoral nerve against the inguinal ligament. Only a small hematoma was found above the inguinal ligament. Their findings confirm the mechanism proposed by Brower and Wilde. Hemorrhage into the iliacus muscle sufficient to cause compression of the femoral nerve, as proposed by Goodfellow et al,[5] probably must be much more extensive. In our series, Case 1 presented with retroperitoneal hemorrhage that extended into the iliacus and psoas muscles. The mass created by this hematoma was demonstrated by CT scan (Fig) and the associated blood loss was sufficient to require blood transfusions.

Differential Diagnosis and Treatment

The presentation of inguinal or groin pain with hip flexion may mimic acute hemarthrosis (as was initially diagnosed in Case 2), suppurative arthritis, or even appendicitis (if signs and symptoms are right sided). The presence of tenderness and a mass palpated in the iliac fossa associated with evidence of a nerve lesion should distinguish femoral nerve entrapment from hemarthrosis or suppurative arthritis. If

nerve compression is absent, or its onset delayed, the differentiation from appendicitis may be difficult.[5] The flexion deformity of the hip is reported to be more severe in iliacus hematoma than in acute appendicitis.[8]

Prompt recognition of iliacus muscle hemorrhage with femoral nerve entrapment is necessary to prevent damage to the nerve. Administration of oral anticoagulants should be stopped, and reversal of the clotting defect with vitamin K and possibly fresh frozen plasma should be undertaken promptly. Immobilization of the involved limb may decrease pain and reduce bleeding.

One of the previously reported cases underwent surgical exploration of the iliacus and distal psoas hematoma. Muscle necrosis was noted at surgery; however, there was no functional disability at a one-year follow-up examination.[9]

Surgical evacuation of the hematoma has been advocated by some authors[4,10] when femoral nerve entrapment has occurred in hemophiliacs and in association with heparin therapy. When the hematoma has been evacuated promptly after recognition of this syndrome, results have been favorable. Four previously reported patients who were taking oral anticoagulants and the two presented here were treated non-surgically, with results ranging from mild to no residual functional disability.

Summary

The syndrome of femoral nerve entrapment in patients taking oral anticoagulants is probably more common than realized. We have presented two cases of this syndrome to call attention to the usual clinical presentation and physical findings. Early recognition of femoral nerve entrapment in patients taking oral anticoagulants presenting with groin pain, hip flexion, and femoral nerve palsy should prompt the institution of appropriate treatment. Most patients can be managed medically, although if symptoms and signs progress despite correction of clotting abnormalities, surgical evacuation of the hematoma should be considered. In our experience, ultrasound or CT scanning proved to be helpful in establishing the diagnosis. Most patients treated conservatively recover with minimal if any disability. □

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Epidemiologic Study of Prostate Cancer in Oklahoma

Six-Year Review, 1975-1980

ERNEST E. ODUNZE, MA, MPH; STANLEY L. SILBERG, PHD; JOE MALLONEE, MPH

In the state of Oklahoma, prostate cancer mortality data must be retrieved from death certificates which are maintained by the Oklahoma State Health Department. Oklahoma prostate cancer mortality data from 1975 to 1980 were reviewed and analyzed to determine the existence of epidemiologic patterns of the disease in the state.

Cancers of the prostate, like other cancers, are a disease of the body's cells.[1] Prostatic cancers begin in the outer part of the gland and involve capsule lymphatics and blood vessels in the early stage. Prostatic cancers vary widely in their biological behavior, and many have a very low growth rate. Symptoms of prostate trouble may be due to benign or malignant enlargement of the prostate, or to an infection.[1]

Review of the literature by Franks[3] and recent review of the literature by this writer found no important advances in the epidemiologic and etiologic understanding of prostate cancer in recent years.

Cancer of the prostate is the second leading cause of cancer death among US males.[4] About 20,000 deaths and 57,000 cases of the disease occur each year.[5]

In recent decades, age-adjusted mortality rates from prostatic cancer have risen precipitously among blacks, but have remained unchanged among whites.[4] The disease is particularly common among American blacks. Age adjusted incidence rates for US blacks is 88.8 cases per 100,000 males, whites 53.7, and Japanese 3.2 to 4.3.[3] Cancer of the prostate is virtually unknown in men less than 40 years old.[4] According to Johnson et al[6] only 1.1% of all cases occur in men under age 50.

Incidence increases rapidly after age 40. The disease accounts for 15.2% of all cancers among US white males[2] and 21.8% of all cancers among US blacks. Blair and Fraumeni[5] reported that mortality among nonwhites was 50% higher than that among whites in all parts of the country where blacks comprise most of the nonwhite population.

The Third National Cancer Survey[7] reported in 1969 that among whites, rates of prostatic cancer were highest in the West, but among Negroes, rates were higher in the South. Steele et al[8] found that there were higher rates in the northern United States than in the southern United States, for both whites and nonwhites.

Rates appear to be higher in urban areas than in rural areas. King et al[9] found that whites have higher rates in metropolitan counties with a central city than in non-metropolitan counties. Since the state of Oklahoma has required the reporting of prostate cancer death for several years, it would be most appropriate to report an epidemiologic description of the disease covering these years.

Methods and Procedures

The Oklahoma Department of Health is responsible for registration and maintenance of death certificates. For this report, data were extracted from death certificates for the period 1975-1980. Death certifi-

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cates are filed by the attending physician at the time of death or by the State Medical Examiner in the event of unattended deaths. The cause of death classification follows the international classification and certification of disease and cause of death.

Information on prostate cancer was retrieved from the computer for the years 1975 to 1980 and used for this descriptive study. Cases wre identified and stratified by patient's age, race, place of residency, and county. Names of the victims were withheld to maintain confidentiality. Other available data included mortality information, which was grouped into 10-year age intervals, 40-49, 50-59, 60-69, 70-79, and 80+. These years constitute the age groups at higher risk for prostate cancer.

Results

There were 1,831 prostate cancer deaths reported to the Oklahoma State Department of Health from 1975 to 1980, with an annual mean of 305 deaths each year. The 321 deaths reported in 1978 represented the highest reported number of deaths during the period of study. Table 1 indicates cause-specific prostate cancer mortality rates for Oklahoma by year, 1975 to 1980. The overall mortality rate for the six years was 21.9 per 100,000 population. The mortality rate for all races in 1975 was 23.8, depicting the highest overall rate. There appears to be little disparity during the six-year period. The rates ranged from 18.9 in 1976 to 23.8 in 1975 with peaks in 1975 and 1978. Although the study period was from 1975 to 1980, it was interesting to determine if there was any change in 1981. Based on 307 prostate cancer deaths in 1981 and a mortality rate of 20.5 per 100,000 population, there was no indication of any significant peak.

Table 2 indicates the cause-specific prostate cancer mortality rates by race and year, Oklahoma males 1975-1980. Prostate cancer mortality rates were higher among blacks for all six years as compared to that of whites and Indians. The highest rate for blacks during the study period was 1978 when the rate was 47.5 per 100,000 population. Except for 1976, mortality rates for whites were remarkably consistent over the six years. The overall mortality rate for whites was 21.9 deaths per 100,000 population. Mortality rates among Indians ranged from 1.9 per 100,000 in 1978 to 5.4 per 100,000 population in 1980 with an average rate of 3.4. The overall prostate cancer mortality rate for blacks was 38% higher than that of whites.

Table 3 shows age-specific prostate cancer mortality rates per 100,000 population for Oklahoma whites, blacks, and Indians for 1980 only. Age-specific rates could not be calculated because these data were not available prior to 1980. Death rates increased progressively after age 40 among all races. Whites had higher mortality rates in the age group 40-49 than blacks and Indians. Mortality rates for other

Table 1. — Cause-Specific Prostate Cancer Mortality Rates, Oklahoma, Males by Year, 1975-1980

Year	Oklahoma Male Population	Deaths	Rate/100,000 Males
1975	1,337,912	318	23.8
1976	1,356,258	256	18.9
1977	1,374,604	305	22.2
1978	1,392,950	321	23.0
1979	1,411,296	314	22.2
1980	1,476,719	317	21.5

Source: Current Population Reports Series, p 25, #459 and #875, US Department of Commerce, Bureau of the Census.
Estimated Population of Oklahoma, by county April 1, 1970 - July 1, 1980.

Table 2. — Cause-Specific Prostate Cancer Oklahoma Mortality Rates for Males by Race and Year, 1975-1980

	Males by Race Per 100,000								
Year	White Male Population	No. of Deaths	Rate	Black Male Population	No. of Deaths	Rate	Indian Male Population	No. of Deaths	Rate
1975	1,184,050	277	23.4	92,943	37	40.0	103,746	4	3.9
1976	1,200,512	222	18.5	94,235	30	32.0	105,188	4	3.8
1977	1,216,974	279	23.0	95,527	23	24.1	106,630	3	2.8
1978	1,233,436	273	22.1	96,819	46	47.5	108,072	2	1.9
1979	1,249,898	277	22.2	98,111	34	34.7	109,514	3	2.7
1980	1,266,360	278	22.0	99,403	33	33.2	110,956	6	5.4
Overall Mortality Rate			21.9			35.3			3.4

Source: Oklahoma Employment Security Commission, Oklahoma Population Estimates, July 1976 and 1980, Census of Population and Housing, pp. 18 and 19.
Department of Commerce, Bureau of the Census, Washington, DC 20233, 1980 Census Data, p. 40.

Table 3. — Age-Specific Prostate Cancer Mortality Rates (Per 100,000 Population), Males Oklahoma Whites, Blacks, and Indians, 1980 (Age-Specific Rates, by Race)

Age	White Male Population			Black Male Population			Indian Male Population		
	No. of Deaths	Male Pop.	Rate	No. of Deaths	Male Pop.	Rate	No. of Deaths	Male Pop.	Rate
40-49	1	132,196	0.8	0	7,199	0.0	0	8,812	0.00
50-59	11	128,971	8.5	1	6,373	15.7	0	7,384	0.00
60-69	58	104,074	55.7	7	5,409	129.4	0	5,226	0.00
70-79	122	64,621	188.8	8	3,885	205.9	2	3,059	65.40
80+	84	23,281	360.8	16	1,580	1012.7	4	1,004	398.40

age groups were higher among blacks than Indians and whites. Indians experienced higher mortality rates in the age group 80+ than whites.

Table 4 shows the mortality rates for metropolitan counties (100,000+ population). Four counties had populations greater than 100,000, and the average prostate cancer mortality rate for those counties was 13.2 per 100,000 population. Table 5 shows the mortality rate for city-town counties whose population was between 50,000-100,000 population. For the seven counties in this category, the average prostate cancer mortality rate for the six years was 21.5 per 100,000 population. Muskogee reported the highest mortality rate for the city-town counties. There were 66 rural counties with populations of less than 50,000. Latimer County yielded the highest average prostate cancer mortality rate with 77.2 deaths per 100,000 population for the six-year period. The second highest average mortality rate for the six-year period was Alfalfa County, reporting 44.0 per 100,000 population.

Table 4. — Mortality Rates/100,000 Male Population For Metropolitan Areas Counties (100,000+ Population), Oklahoma, 1975-1980

Counties	Year						Avg. Mort. Rate
	1975	1976	1977	1978	1979	1980	
Cleveland	14.8	5.3	9.0	12.5	15.8	13.9	9.8
Comanche	9.4	3.1	6.1	7.6	7.5	2.9	6.1
Oklahoma	15.0	19.5	19.6	19.8	21.4	20.4	19.3
Tulsa	14.3	18.4	16.3	15.6	21.0	20.8	17.7

Source: Oklahoma Employment Security Commission, Oklahoma Population Estimates, July 1976 and 1980 Census of Population and Housing, pp. 18 and 19. Department of Commerce, Bureau of Census, Washington, DC 20233, 1980 Census Data, p. 40.

Table 5. — Mortality Rates/100,000 for Male Population For the City-Town Counties, (50,000-100,000 Population), Oklahoma 1975-1980

Counties	Year						Avg. Mort. Rate
	1975	1976	1977	1978	1979	1980	
Canadian	23.4	11.5	30.3	11.2	11.1	17.6	17.5
Creek	11.8	11.6	34.3	18.8	26.0	20.9	20.6
Garfield	24.5	17.3	34.1	26.9	29.9	19.6	25.4
Kay	21.6	21.4	25.3	24.9	20.5	20.8	22.4
Muskogee	50.1	26.4	45.5	28.9	15.8	21.9	31.4
Payne	13.6	0	26.9	16.8	26.5	9.4	15.5
Potta-watomie	20.7	16.3	12.1	23.8	11.8	22.7	17.9

Source: Oklahoma Employment Security Commission, Oklahoma Population Estimates, July 1976 and 1980 Census of Population and Housing, pp. 18 and 19. Department of Commerce, Bureau of Census, Washington, DC 20233, 1980 Census Data, p. 40.

Discussion

It is generally accepted that the risk of prostate cancer is higher among the nonwhite population, particularly among blacks. This same situation was observed in the overall Oklahoma death rates, with higher mortality rates among blacks than among whites or Indians. Whites had higher mortality rates than Indians. The mortality rate for blacks was 38% higher than whites.

It was interesting to discover that there were no prostate cancer deaths reported in those counties with no black population. Among these counties were Cimarron, Ellis, Major, Ottawa, and Woods. Blacks made up only 1.3% of the Alfalfa County population, yet there were higher average prostate cancer mortality rates in this county than in 74 other counties. The same situation existed in Dewey County, where blacks made up 1.0% of the entire population, yet Dewey had the fifth highest average death rate among the counties. On the other hand, blacks made up 13.6% of the population in Oklahoma County and 11.1% in Tulsa County, yet the average death rates were lower than expected when compared to that of other counties. It is generally accepted that the higher susceptibility of American blacks to prostate

cancer may be related to selective exposures associated with poor living conditions and some environmental factors. If that assumption were true, one should see higher mortality rates in counties that have a higher percentage of blacks living in urban areas. Oklahoma and Tulsa counties should have reflected this selective exposure to urban residence, yet their mortality rates were lower than expected. The greater accessibility to medical care in Tulsa and Oklahoma counties may be responsible for earlier diagnosis and treatment and, consequently, better survival rates.

This study confirms results found in a prostate cancer mortality study by Johnson et al[6] who observed only 1.0% of cases occurred under age 50. However, our rates were even lower (.0007%) for prostate cancer deaths less than age 50. Of the total deaths, 70% occurred after the age of 80. This may support the concept that there are progressive stages of the disease resulting in deaths later in life or that onset occurs later in life. Of the total Indian deaths, 83% occurred after the age of 80, while 52.9% of the white and 70.7% of the black deaths occurred after age 80.

It appears from this information that Indians have a longer length of survival than whites and blacks. Although studies of survival rates have been done by others like Hurst and Bergman,[2] rates have varied to such a degree that it is difficult to determine the exact rates of survival. Since data on incidence were not available, calculation of survival rates could not be done. Studies in the future should examine these differences between the races to determine if similar patterns occur. Then one might better speculate on the factors associated with different races according to type of life-style, educational level, occupation, and perhaps other factors.

Another finding in this study was that prostate cancer mortality rates were somewhat higher in western Oklahoma than in any other geographic area.

Blacks had higher mortality rates than whites and Indians for all age groups in 1980 except for the 40-49 age group (Table 3). A (Poisson) statistical test[10] was used to determine if the differences within the age groups were statistically significant. In age group 70-79, the difference in mortality rates between blacks and Indians was statistically significant. There were no differences observed in other age groups among the three races.

Caution should be exercised in the interpretation of the age variables presented because some of the death certificates failed to indicate the patients' birth dates. Likewise, caution should be exercised in the interpretation of rates of counties because some patients might have migrated to other counties and even to other states prior to death. Future studies to identify risk factors for prostatic cancer in Oklahoma would be enhanced by reinstatement of a tumor registry in the state as well as more precise information as to cause of death on death certificates. □

The authors wish to thank the Oklahoma State Commissioner of Health, J. K. Leavitt, MD, and the Epidemiology Services, Oklahoma State Health Department, for the use of the data in this study.

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"Child Crowing" (Croup, 1836-1889)

RONALD D. GREENWOOD, MD

There are few amongst the diseases of infant children more calculated to arouse the attention and to alarm the fears both of the friend and the professional attendant, than that well-known sonorous inspiration, the frequency of which has led to the familiar appellation, by which such cases are readily recognised and briefly described, of crowing children. This distressing malady, always formidable in appearance and occasionally justifying alarm because fatal in reality, consists essentially of a constriction of the glottis, which, even in its milder form, impedes the passage of air into the chest, and, in more severe instances, so completely closes it as to suspend altogether for a time the respiratory function. The child has an interruption . . . of its breathing; and after vehement struggles, often called, and even sometimes actually, convulsive, it at length succeeds in drawing in its breath with a shrill sound, some say, like the crowing of a cock. . . .

In the earlier periods of this complaint the attacks commonly take place in the night, or after a tranquil sleep. This is a marked feature of the disease and has been noticed by all the principal writers upon the subject.[1]

Such were the thoughts on the feared disease, croup, in 1836. Descriptions of croup had been recorded by the early physicians Hippocrates and Galen who termed it "asthma." In Ley's description, croup was confined to "an inflammatory affection of the lining membrane of the windpipe." Causes of the disease were felt to be "predisposing," such as age, constitution, climate and season, diet, "scrofula," and "exciting," such as dentition, inflamed scalp, head affection, bronchitis, lung disease, or inflammation of the pericardium. Causes of the paroxysm were felt to be "straining of the body, exercise, fretting, cough, abdominal distention, sudden awakening from sleep, fright, effort to swallow, or sudden application of cold."

> . . . the predisposing causes are such as to have a tendency to produce — and do actually produce — glandular enlargement, or to call into action a scrofulous tendency; that the exciting causes are such, as are peculiearly apt to occasion enlargement of the cervical or thorasic absorbent glands; and that the causes of the paroxysm are such, as by natural association without morbid influence, involuntarily close the glottis; that the breathlessness, which commonly precedes the sonorous inspiration, cannot, therefore, be from this closing of the rima glottidis, which in such cases, is perfectly normal, but must arise from defective power in those agents, whose office it is to open that chink; and lastly, that the crowing inspiration, which is nature's imperfect cure of the temporary suspension of breathing, arises from the chink being only partially open for the admission of air, and remaining so until more explosive expiration, such as screaming, crying, coughing, or belching, shall mechanically burst open the floodgates, and perfect the recovery from the paroxysm.[1]

"It is probable that half the children attacked [by croup] die."

—1873

Ronald D. Greenwood, MD, Chief, Division of Pediatric Cardiology, School of Medicine, UC Davis Medical Center, 4301 X Street, Sacramento, CA 95817.

Treatment in 1836 was practically nonexistent and was directed toward avoiding the predisposing causes, dressing and eating well, and taking warm baths.

By 1873, the disease as evaulated by Ellis was still felt to be "very alarming in its symptoms, probably contagious, and very fatal."[2]

> At postmortem, the muccus membrane of the larynx and trachea is usually inflamed, red, vascular, thickened, and peels off easily; the characteristic materies morbi is the false membrane which lines the air passage. It is a layer of lymph of variable thickness, white, yellow, or ash-colored, lining the larynx and trachea, and extending down even into the bronchi. This false membrane may be in patches or in cylindrical pieces, or present perfect moulds of the tubes. It is thinner in the larynx than in the trachea, and thinnest in the bronchial tubes.[2]

The prognosis of croup at this time was still

> . . . generally unfavorable, though even severe cases may and do recover; it is probable that half the children attacked die. Favorable symptoms are early and free expectoration, the breathing remaining free, the voice being little changed or recovering its natural tones, the pyrexia moderate. But, if on the other hand, there is great difficulty in breathing, high fever, much clanging noise, and no expectoration, the case will probably die.[2]

The pathophysiology was more scientifically based than that postulated by Ley nearly forty years before.

> The inflammation of croup has its seat in the mucous membrane, the vessels of which tissue secrete the fibro-albuminoid material which forms the false membrane. This crupal exudation obstructs the breathing, which is also hindered by spasmodic contraction of the larynx. A very small amount of exudation added to the swelling and spasm of the larynx may prove fatal by suffocation, though death may also occur from exhaustion, or a clot in the heart, or from the secondary affections — bronchitis and pneumonia.[2]

Treatment still offered little if any benefit.

> This should be moderately antiphlogistic at the outset of the disease. The child must be placed in bed in a room well warmed; a warm bath will be useful at the outset, after which emetics must be given; the antimonial wine is usually preferred; it may or may not be combined with ipecauanha.
>
> Dr. Meigs recommends doses of alum . . . in honey or syrup as a sure, safe and nondepressing emetic. The hypodermic injection of apomorphia (gr. 1/40) is another method which is very certain and nondepressing.
>
> The air of the room is to be kept moist as well as warm; in a severe case a blanket tent round the bed will be needed and the spout of the vessel in which water is boiling should send its steam into the enclosure. In milder cases, it will suffice to have a kettle boiling in the room, with some contrivance to prevent its steam going up the chimney. It is a good plan to wring out sponges in hot water and to apply them near the child's throat. In severe idiopathic croup general bleeding is usually recommended. I confess to having a great aversion to the practice, and prefer, when needed, applying leeches to the seat of mischief. Even the strongest advocates of general bleeding naively admit that unless followed up by other treatment its result will be fruitless.[2]

Other treatment included: calomel, mercurial innunction, alkaline salts especially chlorate of potash (combined with tincture of perchloride of iron), tincture of iodine, judicious diet, and a stimulant expectorant.

The surgical treatment, tracheotomy, was also employed with the following thoughts kept in mind.

> It is not a curative measure, but a means adopted to prevent imminent suffocation.
>
> It removes the mechanical obstacle to the entrance of air into the lungs and diminishes the spasm of the glottis, which also interfered with respiration.
>
> The operation itself is not a serious one, and may be performed with the loss of about two drachms of blood.

"In severe idiopathic croup general bleeding is usually recommended."

—1873

> The operation possibly accelerates or causes intercurrent bronchitis; this, therefore, should be carefully guarded against.
>
> The operation should be undertaken early in the course of the disease, as soon as ordinary treatment has failed and suffocation is imminent but ordinary treatment is to be persevered with after tracheotomy has been performed.
>
> Cases in which the operation is performed should be well selected, chest complications in particular should be ascertained, and if of a serious nature the operation should not be performed.[2]

Barclay, in Holmes's *System of Surgery* (1875), recommended tracheotomy when inevitable.

> Our chief reliance, where prompt relief to the breathing is demanded, and seems an unavoidable necessity, must be in the operation of tracheotomy. . . . the operation, if not to be re-

commended is at least justifiable, as it does not materially increase the risk of a fatal issue, and unquestionably in some cases offers the only chance of recovery; but, to be successful, it must be performed at an early period of the attack.[3]

Although "catheterization of the larynx" was recorded in the writings of Hippocrates, it met with little use or success until O'Dwyer re-introduced intubation. He wrote:

> The indications for intubation are the same as for tracheotomy . . . the beginning of the third or suffocative stage is the proper time to interfere.[4]

At the time of O'Dwyer's book (1889), the latest statistics on intubation were recorded.

> Dr. Dillan Brown who in the month of November, 1888, collected 2,372 cases (159 operations) with 646 recoveries or 27.2 per cent.[4]

Although the mortality was still high, especially in children under one year of age, the O'Dwyer tube certainly reduced the number of deaths in this dreaded disease.

O'Dwyer's work was praised at the Kansas State Medical Society meeting on May 8, 1889 in Topeka. Dr S. G. Stewart of Topeka stated:

> As we look on the labors of Dr. O'Dwyer who, with almost infinite patience sought to solve one of the problems of the ages, let us, from his example, take renewed devotion in our efforts to help the sick. The time has come when no little sufferer from that scourge of infancy and childhood should be denied or deprived the chance of life offered by the . . . genius of Dr. O'Dwyer.[5]

This fifty-year period in the mid to late nineteenth century provides us with a view of the diagnosis and changing concepts of treatment. During this period, therapy for this dreaded malady of infants and children progressed from emetics and leeches to steam tents and intubation. □

Acknowledgment: I am indebted to the Francis A. Countway library of medicine of Harvard Medical School, Boston, for use of their historical materials.

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Coming in June . . .

Among the manuscripts being considered for publication in June are a proposal for limiting antibiotics on the hospital formulary and a survey of recent trends in pregnancy among Oklahoma teenagers. Also being readied for publication is a study of estimated physician manpower requirements and supply for Oklahoma in 1990 and a white paper from the OSMA's Council on Medical Education concerning physician manpower production in the state.

Keeping in Touch

Notes from the OFPR

by NEAL THRIFT, Executive Director

This is the first of what the JOURNAL hopes will become a series of informative articles intended to help a variety of organizations keep in touch with the physicians they serve. Representatives of other groups and specialty societies are encouraged to submit similar summaries of their objectives and activities.

This is a success story — by doctors.

For the past several years, the Oklahoma State Medical Association has given its support to the Oklahoma Foundation for Peer Review (OFPR). About 52% of all state physicians count themselves as members of OFPR. Of these, some 170 serve as physician advisors, reviewing questionable cases in their specialty. Many others serve in various capacities on the OFPR Board of Directors, the Executive Committee, Advisory Group, Data Committee, and others.

Of particular importance are those physician members of the Standards and Criteria Committee who selected and adapted the well-known "Blue Max" guidelines for evaluating hospital utilization and quality in Oklahoma's peer review process.

Why have so many doctors chosen to participate in a system they didn't create?

Surely the demands on their time were already overwhelming — considering patient care, professional development, family needs, community involvement and other factors.

Oklahoma doctors might have understood earlier than others that just as citizen participation in a political process benefits both the individual and the society, so professional participation in peer review benefits both the physician and the medical community. If the law was going to take effect, they might have reasoned, then the practicing physician should devise the specific methodology and ground rules for its implementation.

Without participation they would have lost control over the system very quickly; with participation they have been able, to some extent, to determine their future working conditions.

Perhaps, too, these supporters of OFPR sensed that involvement in peer review offered an opportunity for professional growth. Admitting that there is still a great deal to learn about the practice of medicine, they chose to look beyond their own experiences. After all, as we begin to generalize, to describe, and to categorize information, we are bound to broaden our scope and gain new insights.

And for those who sought neither to control the system nor to grow professionally, perhaps the reason for getting involved was simply self-protection. Lack of knowledge about the process could result in diminished income capability, while familiarity with the system offers protection to competent physicians.

Review of records is the basis for most decisions under the prospective payment system. The doctors

who interact closely with OFPR have a thorough understanding of what must be documented in a patient's record and why this must be done.

Consequently, these physicians need not feel threatened by the reviews, and the hospitals where they practice have few administrative problems with their cases.

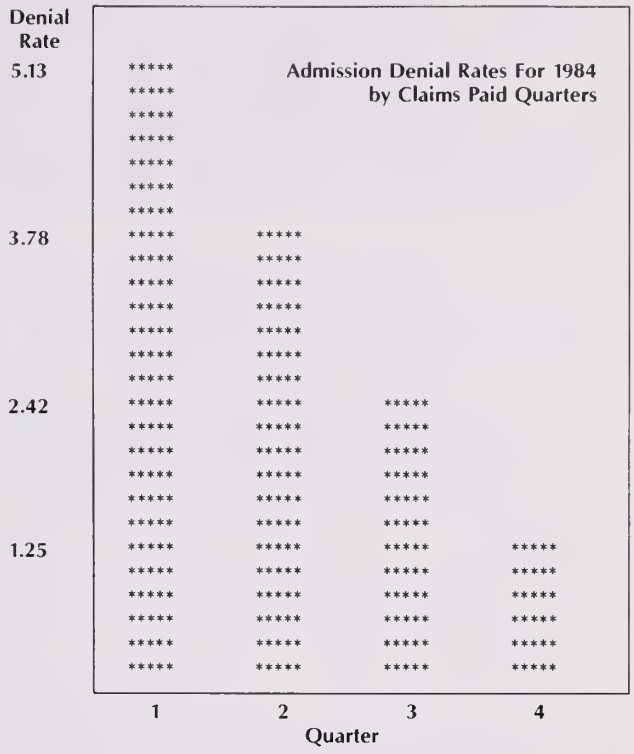
Regardless of their reasons for working inside OFPR, these physicians have raised Oklahoma's program to be among the best in the nation. The concept is coming of age in Oklahoma, while other states are still struggling to decide on an approach. Furthermore, this implementation in Oklahoma has occurred without the catastrophic effects that many predicted.

Indeed, as we look at the number of denials of claims, as a percent of records reviewed, we see that the denial rate is rapidly declining. Physicians are learning to live with the system. It is working and growing healthy, as the chart indicates.

Many people expressed fears that denials of hospital claims for payment would cause admissions to plunge while hospitals went bankrupt and sick patients languished at home. These gloomy forecasts are not materializing. Although many patients are being treated as outpatients for procedures which previously would have been performed during a hospital stay, every indication is that this is a technological and economic improvement, not a decline in the availability or quality of medical care.

Cooperation between physicians and the OFPR has put Oklahoma ahead of other states, with the learning curve behind us. Where doctors have refused to acknowledge their peer review organization, the medical communities are floundering.

Although more than half of Oklahoma's physicians are members of OFPR, there is still a large number not yet on the roster.



Enrollment is easy — no fee and no hassle. Call or write Laura Magnino (405) 840-2891. The address is OFPR, The Paragon Building, Suite 400, 5801 Broadway Extension, Oklahoma City, OK 73118.

A card will be mailed for your signature and return. Once you have joined the organization, we urge you to get involved. The need for your professional knowledge and experience will always be there, and the Oklahoma community will be better for your involvement.

It's just good medicine, for you, your patient, your hospital, your community and state. Peer review is working in Oklahoma. You can make it even better. □

News from
the Oklahoma State
Department of Health

Lead Screening Project

In an effort to determine Oklahoma's risk level for lead poisoning, the Pediatrics Division of the Oklahoma State Department of Health has implemented a lead screening project in selected county health departments.

The federally funded project will enable staff from the health departments to screen children between one and six years of age to determine their risk for lead poisoning.

Initially, only clients of the Special Supplemental Feeding Program for Women, Infants, and Children (WIC) will be screened. Children whose families qualify for WIC meet many of the risk factors that are associated with undue lead absorption, such as residence in structures in lower socioeconomic areas.

The screening will consist of obtaining a blood sample which will be sent to the Oklahoma State Department of Health Laboratory for analysis. Because it can provide an early determination of lead exposure, the erythrocyte protoporphyrin (EP) test will be used to measure the red cell protoporphyrin that occurs as the result of lead interference in heme synthesis. If the level is elevated, a blood lead determination can be made on the same sample.

Depending on the amount of lead found, staff from the health department may visit the home to investigate possible areas where the child is being exposed.

Information gathered from the project will be used to determine how much effort should be put into a comprehensive, statewide lead screening program.

Physicians may direct their questions about this program to the Pediatrics Division, Oklahoma State Department of Health, 405/271-4471. □

DISEASE	February 1985	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	1	2	0	1
CAMPYLOBACTER INFECTIONS	12	23	20	—
ENCEPHALITIS, INFECTIOUS	2	4	0	2
GIARDIA INFECTIONS	13	30	26	—
GONORRHEA (Use ODH Form 228)	868	2189	2080	2298
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	18	36	28	—
HEPATITIS A	53	71	81	64
HEPATITIS B	17	20	18	30
HEPATITIS, NON-A NON-B	4	5	5	—
HEPATITIS UNSPECIFIED	10	14	20	32
MEASLES (RUBEOLA)	0	0	0	2
MENINGITIS, ASEPTIC	4	6	5	7
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	8	11	7	7
MENINGOCOCCAL INFECTIONS	6	6	9	6
PERTUSSIS	2	4	8	3
RABIES (Animal)	6	10	12	21
ROCKY MOUNTAIN SPOTTED FEVER	0	0	0	0
RUBELLA	0	0	0	0
SALMONELLA INFECTIONS	15	47	43	45
SHIGELLA INFECTIONS	21	29	24	31
SYPHILIS (Use ODH Form 228)	17	41	30	27
TETANUS	0	0	0	0
TUBERCULOSIS	15	28	24	47
TULAREMIA	1	2	1	0
TYPHOID FEVER	0	0	0	0

Diseases of Low Frequency	Total to Date This Year	
ACQUIRED IMMUNE DEFICIENCY SYNDROME	1	
BRUCELLOSIS	1	
LEGIONNAIRES DISEASE	0	
MALARIA	0	
REYE SYNDROME	0	
TOXIC SHOCK SYNDROME	1	
RABIES		
LOVE	Skunk	3
MAYES	Skunk	1
MUSKOGEE	Skunk	1
WASHITA	Skunk	1

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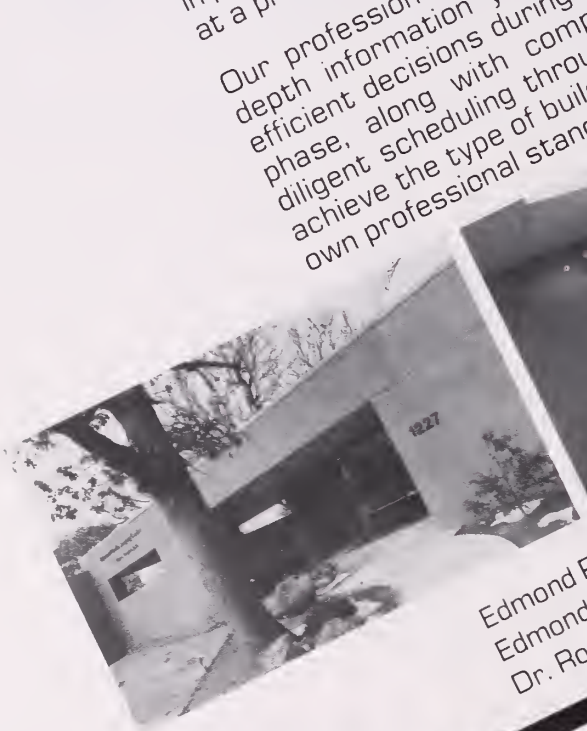
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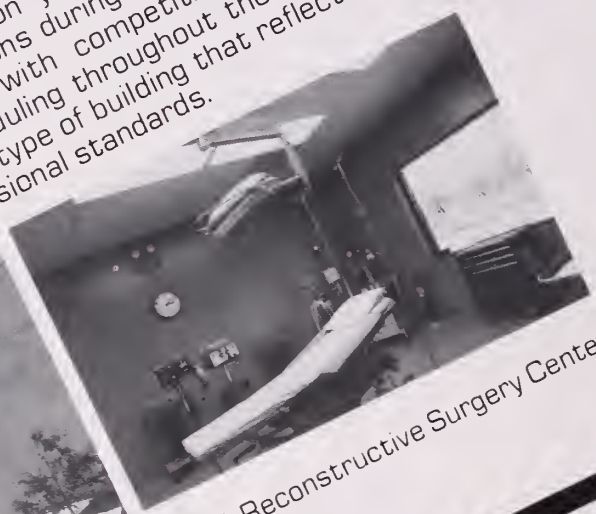
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Elvin Amen, MD, takes the helm as OSMA president for 85-86

Bartlesville physician Elvin M. Amen, MD, was installed as president of the Oklahoma State Medical Association at the OSMA's Annual Meeting in Oklahoma City early this month. He succeeds James B. Eskridge III, MD, of Oklahoma City.

Dr Amen established his family practice in Bartlesville in August 1951 after earning his medical degree at the University of Nebraska College of Medicine and completing his training at University Hospital in Omaha.

In addition to his OSMA and AMA memberships, Dr Amen holds membership in the Aero-Space Medical Society and the Oklahoma and American Academy of Family Physicians. He has served as chief-of-staff of two local hospitals and as treasurer and president of the Washington-Nowata County Medical Society. A past chairman of the OSMA Board of Trustees, he has also served as district delegate to and vice-president of the OSMA.

Dr Amen was raised and educated in North Dakota and served in World War II as a civilian flight instructor for the Army Air Corps. He then was employed by TWA as a pilot until 1946, when he was accepted as a medical student at the University of South Dakota. There he completed a BS in Medicine before transferring to the University of Nebraska.

In 1956 he was called to active duty in the US Air Force and served as a flight surgeon and instructor in aviation medicine until 1958, when he returned to Bartlesville.

He has kept his commercial pilot's license, but now flies only for fun. He also enjoys hunting, fishing, and photography.

Dr Amen and his wife Lucile have two married sons and five grandchildren. □

AMA plans shot in the arm for special projects this year

The American Medical Association (AMA) will be placing increased emphasis this year on some recent and planned initiatives, according to a report from AMA Executive Vice-President James H. Sammons, MD.

As reported in the *Journal of the American Medical Association (JAMA*, Mar 15), one project involves a series of activities to focus national attention on the health care needs of the elderly. Another project monitors the effect on quality of the federal prospective pricing system for hospitalization under Medicare.

Other new projects will enable the AMA to prepare for, influence, and respond to changes in the physician reimbursement system. Also in response to the changing practice environment, a Market Area Profile Service will provide detailed demographic, manpower, and hospital data to help physicians select practice sites or adjust existing practices to changing market conditions.

The Health Policy Agenda for the American People, initiated in 1982, brings the private and public sectors together in the development of comprehensive long-term guidelines for the establishment of national health policy. Throughout 1985, the group will prepare final policy proposals in more than forty areas.

Sammons emphasized that the expanded programs in the report represent only a small portion of the AMA's work on more than 300 separate projects. □

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From the left: Tracye Caughell, Steve Austin, and Scott Griffith.

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Tulsa cardiovascular center sets June date for symposium

St John Medical Center in Tulsa has announced the fifth annual symposium for the St John Cardiovascular Institute will be held at the Sheraton Kensington Hotel on Friday, June 21, 1985. The meeting is for physicians, nurses, and allied health professionals.

The symposium is designed to provide a comprehensive review of cardiac disease for the generalist, internist, cardiologist, cardiovascular surgeon, and nurse interested in cardiovascular disorders.

A guest faculty and a local faculty of six physicians and cardiac care nurses, headed by Antonio C. deLeon, Jr., MD, medical director of the St John Cardiovascular Institute, will present a program of more than a dozen topics. Among them will be cardiac rehabilitation, hypertension emergencies, duplex scanning of carotids, medical/legal dilemma of DRGs, and economic issues relating to the care of the critical care patient.

The program has been approved for 5.5 hours of CME credit, and the American Association of Critical Care Nurses has granted approval for 0.55 CEUs. The fee is $95 for physicians and $55 for residents, medical students, nurses, and other health professionals. Fees include tuition and materials.

For additional information contact LoRayne Whitehead, RN, MSN, St John Cardiovascular Institute, 1923 South Utica, Tulsa, OK 74104. Phone (918) 744-2828. □

In Memoriam
William M. Leebron, MD
1913 - 1985



The OSMA joins in the sorrow of the family and friends of William M. Leebron, MD, Elk City, president of the Oklahoma State Medical Association in 1979-80, who died March 22, 1985.

The citizens of Elk City have lost a dedicated friend and physician. His colleagues will miss a leader who worked tirelessly and effectively for the physicians of Oklahoma and their patients.

A graduate of Ursinnus College and the University of Pennsylvania School of Medicine, Dr Leebron, who earned the rank of Lieutenant Colonel in the United States Army Medical Corps during World War II, began his practice of general surgery in Elk City in 1950.

His medical honors are numerous: past president and Fellow, International Academy of Proctology; founder, John Paul North Surgical Society; Fellow, American College of Surgeons; Fellow, American Society of Abdominal Surgery; and Fellow, Southwestern Surgical Congress.

During his OSMA presidency, Dr Leebron was instrumental in the establishment of the Physicians Liability Insurance Company (PLICO), the physician-owned professional liability and health and accident carrier which served as a model for other states.

He also worked with officials of the State of Oklahoma, the University of Oklahoma Health Sciences Center, and the Oklahoma Department of Human Services to ensure an orderly transfer of the then University Hospital to the Department of Human Services.

Dr Leebron never stopped working for his fellow physicians. At the time of his death he was a member of the Board of Medical Examiners; member of the Oklahoma Foundation for Peer Review Board of Directors; chairman of the Oklahoma Medical Political Action Committee; and alternate delegate to the American Medical Association.

A memorial fund has been established in Dr Leebron's name at Oklahoma City University. Friends may send their gifts to: Charles Love, OCU, 2501 N. Blackwelder, Oklahoma City, OK 73106. □

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New HCFA regulations threaten teaching nursing homes

Restrictions on funding for nursing homes is threatening their opportunity to develop into high-quality facilities for the elderly, according to a report in the *Journal of the American Medical Association (JAMA,* Feb 22).

Leslie S. Libow, MD, and Mitchell M. Waife, of the Jewish Home and Hospital for Aged, and Robert N. Butler, MD, of Mt Sinai Medical Center, New York, say that the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and the pursuant regulations from the Health Care Financing Administration (HCFA) limit Medicare funds for physician services and apply the same criteria for nursing homes as for hospitals. This hurts all nursing homes and makes upgrading the care at smaller, nonacademic nursing homes extremely difficult.

Hospitals and nursing homes should not be treated alike, the authors argue, because there are major differences between acute and chronic care. Elderly patients often require care from more than one specialist for a long time. There is a need for interdisciplinary teams of health care workers, and for special clinics for impaired vision, memory loss, incontinence, and physical rehabilitation. Family consultation on physical, psychological, social, and economic problems of elderly patients also should be available.

"By curtailing Medicare funds for these services, TEFRA and the HCFA rules strike at the heart of the teaching nursing home's clinical care and educational programs, which make the critical difference between custodial and quality care — and between

Airborne measles virus infects children in physician's office

A "super-spreader" of measles virus can contaminate the air of an entire room, resulting in transmission of the disease, according to the *Journal of the American Medical Association (JAMA,* Mar 15). The report deals with an outbreak of measles among children who visited a pediatrician's office in Muskegon, Michigan.

"The index patient was a 7-month-old Korean orphan who had developed measles with rash onset 16 days after arriving in this country," say Patrick L. Remington, MD, of Atlanta's Centers for Disease Control (CDC) and colleagues from the CDC and public health offices in Michigan.

"Subsequently, four children, aged 4 months to 2½ years, developed measles with rash onset 12 to 13 days after visiting the (pediatrician's) office." None had face-to-face contact with the index patient. Three arrived after the patient had left.

Measles transmission has been discussed for years, with prevailing thought favoring the idea that the virus is transmitted only following face-to-face contact. That it can be transmitted by contaminated air presents new challenges for control of the disease.

In the Michigan case, the researchers comment, "The first step to prevent transmission of measles in physicians' offices is to assure adequate immunizations of all patients and staff. None of the adequately immunized children present in the office around that time subsequently developed measles.

"Measures to specifically reduce the risk of airborne transmission include ensuring that there is adequate fresh-air ventilation in the office, respiratory isolation of all suspected cases, and seeing these patients without delay or at the end of the day." □



C. S. Lewis, Jr., MD, Tulsa cardiologist, was named president-elect of the American College of Physicians (ACP) at the college's 66th annual session in Washington, DC, in March. Dr Lewis served as president of the Oklahoma Society of Internal Medicine (OSIM) in 1971 and 1972 and was ACP governor for Oklahoma from 1975 to 1979. He held the position of regent and treasurer for the college prior to his selection as president-elect of the 60,000-member organization.

Women increasing their lead in longevity sweepstakes

A girl born in the 1980s can be expected to live almost eight years longer than a boy, according to data from the National Center for Health Statistics. Is this due to innate biological differences between the sexes, or do men die sooner because they live more dangerous lives?

The answer is that both factors contribute to this ultimate form of sex discrimination, according to the March/April issue of *ACSH News & Views*, a publication of the American Council on Science and Health (ACSH).

"Part of the gender gap in life expectancy appears to be biological," says ACSH Executive Director Dr Elizabeth M. Whelan.

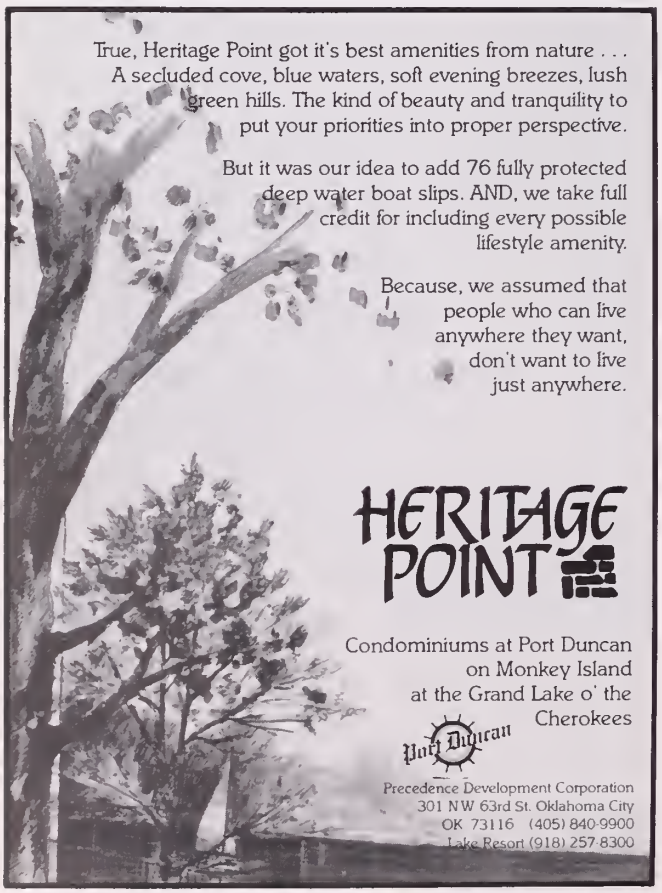
However, there is also substantial evidence that cultural and environmental factors contribute to the gender gap, according to the report.

"More men than women die from lung cancer, other lung diseases, motor vehicle accidents, other accidents, suicide, cirrhosis, and heart disease. All of these causes of death have strong behavioral components," the article continues. "Cigarette smoking, which was much more common among men for many years, accounts for most of the lung cancer deaths and many of the deaths from other lung diseases and heart disease. Heavy or irresponsible drinking of alcohol accounts for many deaths from accidents and cirrhosis. Employment in more dangerous jobs, as well as greater risk-taking behavior, may also contribute to men's higher accidental death rate."

During the twentieth century, life expectancy for both sexes has increased, but women have gained more than men, and the gender gap has widened, the ACSH reports. Government statistics show that the difference in life expectancy between men and women was 4.5 years in 1920 and had increased to 7.9 years by 1980.

"Far fewer women die in childbirth today than they did in the early years of this century, and the death rate from cancer of the uterus has also declined," the article states. "This accounts for part of the increase in the sex differential.

"Meanwhile, there has been a dramatic increase in lung cancer deaths in men, and until the 1960s the heart disease death rate for men was also going up. Both of these trends can be linked to the sizeable increase in cigarette smoking by men during the first third of this century." □



New regulations (continued)

the growth and stasis of geriatric medicine," the authors say.

They conclude that a new interpretation of the Medicare law is needed that establishes separate fiscal criteria for nursing homes. This would enable some to evolve into academic centers for chronic care. "Medicare is bypassing the very nursing home patient it is committed to serve," they say.

Because the elderly population continues to increase, especially those persons older than 85, the authors recommend new attention be directed to this problem. They point out that the 1981 *JAMA* article, "The Teaching Nursing Home" had far-reaching effects, and that many such programs were started. But without Medicare support, physician presence and promotion of quality medical care cannot be maintained as needed. □

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Hypnosis has its shortcomings where testimony is concerned

Memories elicited by hypnosis can involve confabulations and be less reliable than nonhypnotic recall, according to an AMA report published in the *Journal of the American Medical Association (JAMA,* Apr 5).

"The use of hypnosis with witnesses and victims may have serious consequences for the legal process when testimony is based on material that is elicited from a witness who has been hypnotized for the purposes of refreshing recollection," says the AMA Council on Scientific Affairs report.

Not only is accuracy questionable, "but there is also the problem that hypnosis leads to an increased vulnerability to subtle cues and implicit suggestions that may distort recollections in specific ways, depending upon what is communicated to the subject," the report points out.

For these reasons, the AMA offers a number of recommendations concerning the use of hypnosis in courtroom testimony:

Hypnosis with witnesses and victims to enhance recall should be limited to the investigative process.

Before using hypnosis, a psychological assessment of the subject's state of mind should be carried out and a detailed history of the individual's recollections obtained in a nonleading fashion. Informed consent should be obtained from the subject, if a decision to use hypnosis is made.

Hypnosis should be conducted by a psychiatrist or psychologist who is skilled in the clinical and investigative use of the discipline and who is aware of the legal implications raised by use of hypnosis in the given jurisdiction.

Ideally, only the subject and practitioner should be present when the subject is hypnotized. Exceptions may be necessary, but they should be weighed against the risk of inadvertently cueing the subject.

One free narrative recall should be elicited before hypnotic induction begins, regardless of procedures used.

Subject response to termination of hypnosis and posthypnotic discussion about the experience are of major importance in assessing the experience.

Further research should be conducted to help clarify the effects of hypnosis on recall, to enhance understanding of functional amnesias that affect witnesses and victims of crimes, and to shed light on the nature of normal and pathological human memory. □

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Glen Webster McDonald, MD
1911 - 1985

OSMA Life Member Glen W. McDonald, MD, died on February 25, 1985, in Norman, where he retired in 1970. Dr McDonald was born in Headrick, Okla, and earned his medical degree at the University of Oklahoma School of Medicine in 1934. In 1939 he completed an MPH degree at Johns Hopkins University. He served in the US Army Medical Corps from 1940 to 1946 before returning to private practice in Pawhuska. His work with the US Public Health Service was begun in 1956.

E. C. Lindley, MD
1905 - 1985

E. C. Lindley, MD, a native of Stansberry, Mo, died in Duncan on March 1, after a long illness. Dr Lindley was graduated from Washington University School of Medicine, St Louis, in 1929. A Fellow of the American Board of Abdominal Surgeons, Dr Lindley served Duncan as a general practitioner and surgeon for more than half a century.

Charles W. Freeman, MD
1917 - 1985

Native Oklahoman Charles W. Freeman, MD, died March 5 in Oklahoma City. A Life Member of the OSMA, Dr Freeman was born in Rocky, Okla, and graduated from the University of Oklahoma School of Medicine in 1941. He served in the US Army for three years before establishing a private practice in pediatrics in Oklahoma City. Later he held the position of clinical professor at his alma mater.

Floyd L. Waters, MD
1908 - 1985

Floyd L. Waters, MD, a Life Member of the OSMA, died on March 5. Dr Waters was born in Mermack, Okla, and earned his medical degree at the University of Oklahoma School of Medicine in 1934. During more than four years of active duty with the US Army in World War II, he attained the rank of major. He then returned to his general practice in Hugo.

William M. Leebron, MD
1913 - 1985

William M. Leebron, MD, OSMA president in 1979-80, died on March 22. The Elk City surgeon earned his medical degree at the University of Pennsylvania School of Medicine and after serving in the US Army Medical Corps during World War II, established his practice in Oklahoma. His professional achievements and activities were numerous and included active involvement in the organization of the Physicians Liability Insurance Company (PLICO), Oklahoma's physician-owned liability and health and accident carrier.

IN MEMORIAM

1984

Leon C. Freed, MD	*June 12*
William D. Bolene, MD	*June 18*
Lee K. Emenhiser, MD	*June 26*
Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Seth D. Revere, MD	*October 6*
Oliver H. Patterson, MD	*October 13*
Emmett H. Lindley, MD	*November 8*
Clark H. Hall, MD	*December 5*
Henry G. Bennett, Jr, MD	*December 18*
Adoniram V. Bowen, MD	*December 29*

1985

Owen L. Hill, MD	*January 15*
Earl M. Lusk, MD	*January 30*
Larry L. Lowery, MD	*February 12*
Harry Wilkins, MD	*February 14*
William H. Buchan, MD	*February 15*
Austin H. Bell, MD	*February 23*
Glen W. McDonald, MD	*February 25*
E. C. Lindley, MD	*March 1*
Charles W. Freeman, MD	*March 5*
Floyd L. Waters, MD	*March 5*
William M. Leebron, MD	*March 22*

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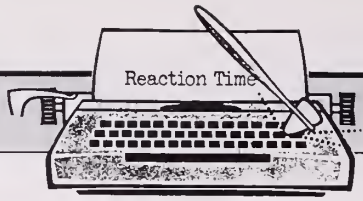


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Retired OKC physician disputes MRJ's "gloom and doom" . . .

Never have I encountered so gloomy a view of our profession as that portrayed by my friend and esteemed editor in the November 1984 issue of this journal under the title "Sad Consensus." Surely most of us were brought up to think of the practice of medicine as not only a noble calling but one affording personal satisfactions given to few. To achieve that goal we willingly made major investments in the past, entailing a rigorous, competitive and costly education, untold and often unpredictable hours of work and study, sacrifices imposed on our families by the demands of an exacting profession. True, along the way we have been confronted by a dismaying array of changes — social, economic, political, as well as scientific — testing our resolve and flexibility. But is it fair, really, to typify our lot as:

> ". . . a bedlam that has befallen our profession in the past twenty-five years . . ." or ". . . being enslaved by an uncivil bureaucracy . . . stripped of our professionalism . . . suffering through the humiliating denigration of a profession."

The picture is summed up as "ominous beyond description."

Certainly if this were indeed a consensus among our colleagues, if most of us actually believed that our high calling had gone to hell in the proverbial handbasket, many would have long since thrown in the professional towel and gone to selling real estate or used cars. Lest we do that, something needs to be said on the plus side, if only to balance the score against all those negatives.

Yes, there are satisfactions that prove it all worthwhile: in making a sharp diagnosis, in treating a sick and discouraged patient and watching him get well, in being a confidante to troubled lives, gaining insight into our fellow man far beyond the common superficial acquaintanceships, in reveling in the respect bestowed on an honorable profession, in the sheer pleasure of being of service to humanity, in the social and, yes, economic rewards. Some derive special satisfaction through leadership roles in the community, in organizational or administrative aspects of medicine. A few are privileged to participate in the education of the next generation of physicians, while a most fortunate few reach eminence through contributions they make to this vast heritage of medical knowledge which is ours. What profession could offer more?

It is human nature to revere and want to cling to the past — at least to the happier aspects to which our memory gives a comforting priority. But nothing is so inevitable as change. New problems arise along the way, many unanticipated, some quite beyond our control or even understanding. Our lot is not "all beer and skittles" as our British cousins would say,

. . . "Don't we, after all, need a few stresses to provide challenge?"

and some of our efforts to improve it have fallen far short of our scientific endeavors in conception, organization and achievement. Our image has lost a bit of its former lustre. Obviously not all change is progress. Yet in the long view the clouds are not so dark; we can point to a truly distinguished record of progress. Within the lifetime of many of us, medicine has come from an "art" form in which the doctor had little of real therapeutic value to offer his patient other than himself, to what we take for granted in practice today. We have been witness to the introduction of antibiotics, of drugs to treat effectively hypertension, congestive heart failure, Parkinson's disease, arthritis, mental illness. Radioisotopes have opened new frontiers of diagnosis and treatment. We have welcomed better pain-relieving drugs, chemotherapeutic agents to combat cancer and viral infections, safer sedatives and contraceptives. And of course the vaccines which bid fair to eradicate polio, measles, mumps, pertussis, as with the small pox

scourge. Surgical advances have become almost daily news. These are exciting, historic milestones. They belong not entirely to the past, for they come at an ever accelerating pace along with the negative aspects of change we complain of. Who would go back if he could?

When Dr. Will Mayo was accorded an ovation on the occasion of one of his last birthdays, he arose to reflect on our past and future. "There are many recompenses in a seventieth birthday," he said. "I look through a half opened door into the future, full of interest, intriguing beyond my power to describe, but with a full understanding that it is for each generation to solve its own problems and that no man has the wisdom to guide or control the next generation." He then added the happy note: "It is a comfortable feeling to be interested in what is to happen, but to be in no way responsible to bring it about."

No, I would submit that any such "sad consensus" of gloom and doom is not representative of the medical profession. Maybe editorials like that do serve to awaken and sensitize us to the problems that lie ahead. All *is* not as we might like it . . . and remember it. But don't we, after all, need a few stresses to provide challenge and keep our intellectual arteries supple? Surely our assets in medicine exceed our liabilities; perhaps we need to reflect on them more often. And there is always that pendulum that, when things get too far out of balance, still swings back toward a more representative (if not always rational) view. So all is not lost. The role of a disgruntled bystander is an unhappy one; better, it is, to "accent the positive." In short, I am not convinced that the sentiment expressed in that editorial is at all unanimous, or that, as stated, "I have heard not a single expression of disagreement . . . nor an unhesitating affirmation from even one peer that he or she would today select the practice of medicine as a career." Well, for starters, let's turn over the page to the president's letter which concludes with ". . . let us give thanks for the unique privilege we still enjoy of restoring health where possible, vigor and return to productive living in some instances, and the limited freedoms which remain in the practice of medicine."

I'll go with that!

Dale Groom MD
Scottsdale, Arizona

Editor's hammering on the mark

To the editor: You hit the nail on the head again with your editorial in the March issue of the JOURNAL ["Great Way to Go"]. Everything you said is very true. I hope that it will have some impact. The doctors have dug their own graves as far as I'm concerned.

I have the excuse that I am old and burned out.

Bruce R. Hinson, MD, FACS
Enid

Satellite call links McCurdys

To the editor: I have just read the article about Dad in the Oklahoma State Medical Journal and saw his pictures ["Leaders in Medicine: William C. McCurdy, Jr., MD," JOURNAL, Mar 85]. I was really quite thrilled with the outcome of the article and pictures. I think that Richard Green and Don Cook did a really good job of capturing the spirit and the humor Dad has had down through the years. Please convey my thanks to both of them for an excellent job. I especially appreciate your efforts at getting this in print. I know that Dad will be happy with it. I received a call from him the other night; the first thing he said was "Billy, how are things back in Oklahoma? I know that you have not been called from a satellite so I thought I'd call you." He said he had been to Bangkok and Singapore and various places and was calling from the deck of the ship. He still has approximately a month left on his cruise, but seems to be feeling well and getting along well. He walks for an hour each morning at five a.m. with Robert Shaw, the Episcopal priest at All Souls, and an apple farmer from Washington State. I am sure they have some interesting conversations.

On behalf of my family, I just wanted to let you know that we appreciate the article and the effort that went into it.

William C. McCurdy III, MD
Norman

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A Pocket Manual of Differential Diagnoses.

By Stephen N. Adler, Mildred Lam, and Alfred F. Connors, Jr. Boston: Little Brown & Co., 1982. Pp 327, price not given.

The stated purpose of this manual is to "bridge the memory gap" by gathering an exhaustive array of symptoms, signs, and abnormal laboratory findings into a bedside tool. It has achieved this goal in a well organized format. The brief references to the medical literature, given throughout, are extremely useful. This volume can be recommended to students, housestaff, and primary care physicians generally.

Robert G. Tompkins, MD
Tulsa

Oxygen Free Radicals and Tissue Damage

(Ciba Foundation Symposium 65). New York: Exerpta Medicine, 1979. Pp 381, price not given.

An introductory chapter by Irwin Fridovich summarizes the generally accepted biological defense systems against toxic forms of oxygen, some of which are characterized as dismutative in nature, while others involve electron donors. H.A.O. Hill provides a concise view of the chemical behavior of molecular oxygen (or, more correctly, dioxygen, as Hill points out). The chemistry peculiar to dioxygen and the formation of dioxygen radicals as well as the reactions of the superoxide anion (O_2^-) are outlined in a succinct manner. Robyn Willson's chapter on the hydroxyl radical considers the evidence for the involvement of the hydroxyl radicals in biological systems both in vivo and in vitro. Unfortunately, in the copy of the book this reviewer was reading, eighteen pages of text constituting most of this interesting chapter were omitted somewhere in the publishing process. This is very unfortunate since Dr Willson is one of the more knowledgeable investigators concerned with the role of the hydroxyl radical in living systems. In addition, the entire chapter by Bielski and Shine on rates of reaction of superoxide anion with essential amino acids was omitted.

R.R. Crichton's section on iron and iron metabolism is well thought out and presented, particularly in examining the required biological functions of iron in the light of the behavior of the two oxidation states that exist under aqueous conditions at physiological pH. The molecular devices evolved by nature to prevent the uncontrolled oxidation Fe^{2+} and the formation of insoluble hydroxide by Fe^{3+} are discussed. The events that accompany iron overload in biological systems include processes that are extremely toxic to cells and are considered to involve inappropriate (for the cells) activations of dioxygen. A discussion of the possible mechanism of the deposition of iron in ferritin is presented, along with evidence that such a mechanism probably involves a relatively stable peroxo-*bis*-iron III complex. There is an excellent review of the superoxide dismutases by Irwin Fridovich, with emphasis on the role of this enzyme in protecting organisms against dioxygen toxicity. A chapter on glutathione peroxidase by L. Flohe outlines the probable functions of this selenium-containing enzyme in biological systems. An informative history by R.J. Flower of the development of information on prostaglandins, thromboxanes, and prostacyclins is coupled to a discussion of their relationship to tissue damage and inflammatory responses.

There has been considerable interest in recent years in the role of oxygen free radicals in certain tissue injury processes. An interesting view of this subject is provided in a section contributed by T.F. Slater, including a discussion of the possible role of zinc and caeruloplasmin as protective agents against oxidative damage. Another section by G. Cohen documents the clear correlation between ethane production and peroxidation of biological membranes in vitro. Ethane exhalation in intact animals is associated with exposure to conditions which are known to produce lipid peroxidation in vitro.

There is an intriguing section on the possible role of free radicals in inflammatory processes.

The role of dioxygen in some required biological processes is also considered in the discussions on vitamin K-dependent synthesis of prothrombin, the enzymatic cleavage of the pyrrole ring of indoleamines and the phagocytic killing of bacteria. In the case of the latter process, defects in some enzyme systems involved in generating toxic products or in protecting cells against their own phagocytic function is discussed by Roos and Weening, and the particular role of myeloperoxidase is reviewed by Klebanoff and

Rosen. Another system believed to function in controlling enteric pathogens is the lactoperoxidase-thiocyanate-hydrogen peroxide triad. This system is thought to be present in milk as a protective agent against pathogenic gut bacteria.

The toxicities of ozone and paraquat are reviewed in chapters by B. Goldstein and L.L. Smith et al, respectively. There is also an intriguing section on the possible role of free radicals produced during the phagocytic action of leukocytes in inflammatory processes where such leukocytes collect as a result of chemotaxis. The possible role of superoxide in this type of inflammation is presented by McCord and Wong.

At the end of the book is a general discussion of the possible carcinogenicity of carbonyl compounds and the chemical forms of the superoxide ion, ie, in the gas phase, in aprotic media, and in aqueous media. In the latter case, the hydrogen bonded structure or a hydrated form is seen which would have somewhat different properties than superoxide anion in aprotic media or gas phase.

Taken as a whole, the book presents an exciting view of an area of biological research which has become a prime interest in recent years and which appears likely to provide insights into certain tissue injury processes and into a number of metabolic disorders.

Paul B. McCay, PhD
Biomembrane Research Laboratory
Oklahoma Medical Research Foundation
Oklahoma City

Diabetes Mellitus and Obesity. Edited by Bernard N. Brodoff, MD, and Sheldon J. Bleicher, MD. Baltimore/London: The Williams and Wilkins Company, 1982. Pp 816, illustrated, $60.

Over the past decade there have been a multitude of advances made in the understanding of the pathophysiology of diabetes mellitus and a shift in emphasis toward meticulous control of the blood glucose levels to as near normal as possible. Because of these advances, the history of the treatment of diabetes may be divided into three eras: (1) before insulin, (2) insulin therapy — 1923, and (3) self-monitoring and intensive therapy by multiple (three or more) injections of insulin, or use of an insulin infusion pump under a physician's guidance.

Frankly, this book was disappointing to this reviewer for many reasons. The average length of most of the 88 chapters was seven to eight pages. Chapter 1, Intermediary Metabolism, certainly an important introductory topic, was 24 pages long and sadly dated, with references from 1969 to 1975.

The book's title was misleading in that only 118 pages dealt with the problem of diabetes. Throughout the book both Type I and Type II diabetes were discussed. An interesting chapter on anorexia nervosa was included under the subdivision Obesity; however, its latest reference was 1978.

In checking the bibliographies throughout the book I found only a few references as late as 1980 or 1981; the majority covered the period 1971 to 1978, making one suspect that this book somehow was delayed in publication. Even in the chapter on pregnancy and diabetes there is no mention of self-monitoring, multiple insulin injections, or insulin infusion pumps, or goals of blood glucose levels for which to strive.

This reviewer cannot recommend spending $60 for a book that is so sadly dated.

Danowski's chapter, Usage of Insulin in Type I and Type II Diabetics, does have three less-than-enthusiastic paragraphs on self-monitoring. Interestingly, in the first issue of *Diabetes Care* in 1978, Danowski published the first article on a small group of self-monitoring patients who took four injections of insulin daily for four years. By 1980, in *Diabetes Care,* he reported on 21 insulin-dependent patients and the over 20,000 urine and blood glucose determinations they had performed. At that time he reported on the "distressingly high frequency of urine tests positive for glucose when the fasting blood sugar is between 50 and 150 mg/dl."

The book *Diabetes and Obesity* edited by J. Vague and Ph. Vague from the Fifth International Meeting of Endocrinology at Marseilles, 1978, actually contains much more information about metabolic aspects of diabetes in the obese, the evolution of diabetes, and therapy.

When every "throw away" journal has articles on self-monitoring, the use of intensive insulin therapy rather than the "conventional therapy" of one to two

injections daily, and the use of insulin infusion pumps in an attempt to achieve the "as near normal glucose levels as possible" recommended by the AMA, this reviewer cannot recommend spending $60 for a book that is so sadly dated that these important topics are not covered. The majority of the chapters are so short that superficial coverage results. This book does serve to emphasize how rapidly the ideas of therapy have changed with more knowledge gained from the insulin-dependent diabetic's recording of rapid glucose changes with exercise, emotional turmoil, and especially the eating of the simple sugars found in fruits. Nutritionists are looking again at their "diabetic diets and studying how the form of the food influences the rate of glucose elevation in the insulin-dependent diabetic as compared to the "normal" and evaluating this "glycemic index." None of this, unfortunately, is covered in *Diabetes and Obesity.*

Carman B. Bahr, MD
VA Medical Center
Department of Medicine
Endocrine Section
Oklahoma City

Core Studies in Obstetrics and Gynecology. By P.V. Dilts, Jr., MD; J.W. Green, Jr., MD; and J.W. Roddick, Jr., MD. Baltimore: The Williams and Wilkins Company, 1981. Pp 242, price not given.

One of the most difficult tasks any scholar could undertake would be to distill the body of knowledge, theory, and practice of one medical specialty into a brief, clear introduction for the neophyte. In this book, three respected department chairmen present a concise introduction to obstetrics and gynecology for first- through third-year medical students.

In twenty-one chapters the authors introduce the student to the various topics in obstetrics and gynecology. The beginning chapter is a good introduction to the specialty. The next two chapters provide an overview of the basic science of the specialty. The chapter on endocrinology, anatomy, and cytogenetics is well written with a number of helpful illustrations. A chapter on endocrinology is an excellent introduction to a very complex portion of obstetrics.

Chapters on the history of the specialty, physical examination, and statistics provide a necessary introduction to those topics. The next nine chapters are

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devoted to obstetrics. The physiology of pregnancy is covered in one chapter that includes helpful tables illustrating various physiologic changes. In a chapter on the management of pregnancy, the student is provided with a management outline for the normal obstetric patient. The various diseases complicated by pregnancy are discussed, and a number of conditions complicating pregnancy are also treated. A discussion of and treatment recommendations for preeclampsia and eclampsia are given in a separate chapter.

In succeeding chapters, the student is introduced to labor, delivery, the newborn, and the pueperium. One chapter discusses population problems and conception control, and another discusses primary care opportunities in obstetrics and gynecology.

The remaining five chapters present topics in gynecology. The common problems of ambulatory gynecology and sexually transmitted disease and other infections are given broad attention. Two chapters covering benign and malignant tumors contain particularly good photographs of pathology slides. There is a chapter on gynecologic endocrine disorders, and the final chapter briefly outlines other gynecologic diseases.

Obstetrics and gynecology, like other disciplines, has its own terminology. Students will be particularly grateful to find in this work a comprehensive glossary.

As the authors have stated, this text provides core information that should serve as a good general introduction to the discipline of obstetrics and gynecology.

Laura Mackie, MD
Oklahoma City

Knowledge is a process of piling up facts; wisdom lies in their simplification.

—*Martin H. Fisher*

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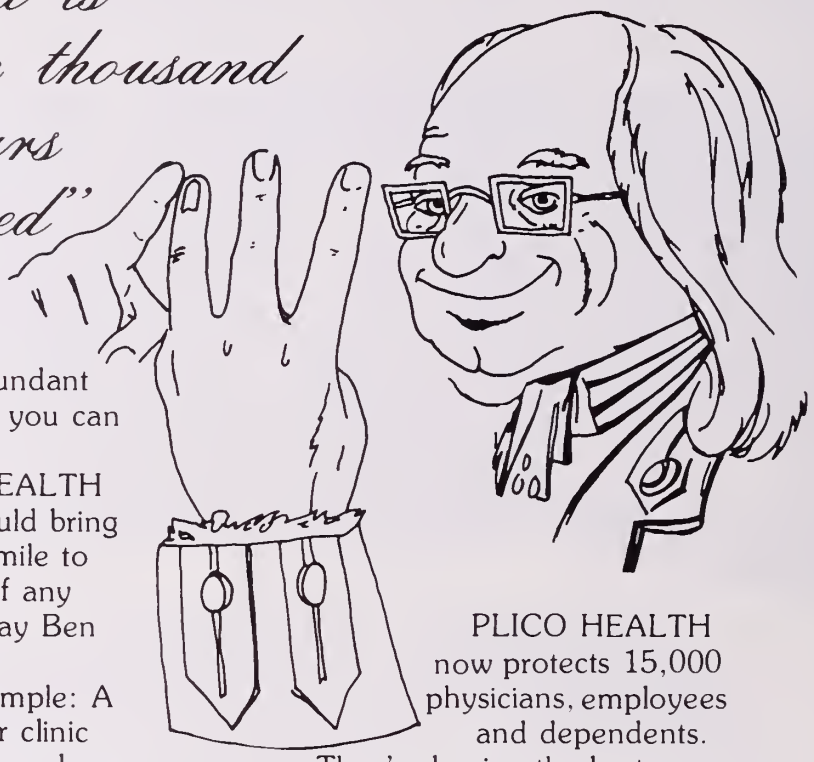
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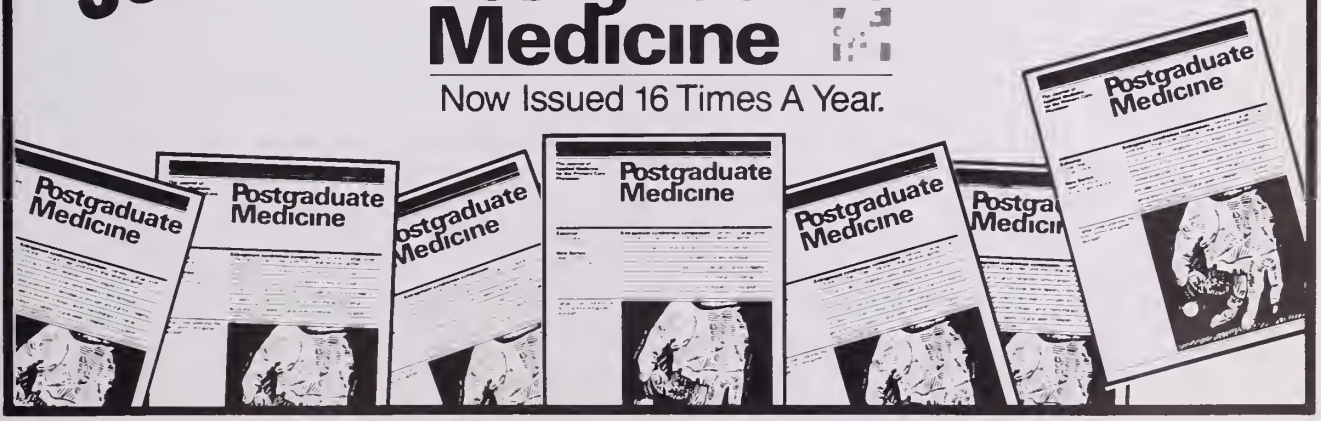
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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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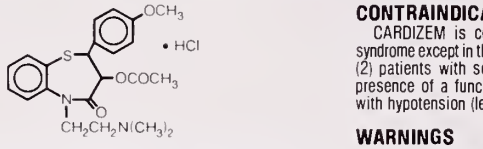
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PROFESSIONAL USE INFORMATION

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30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy) -5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3 asthenia (1.2%), AV block (1.1%). In addition, the following eve were reported infrequently (less than 1%) with the order of prese tion corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, brady dia, palpitations, congestive heart fail syncope.
Nervous System:	Paresthesia, nervousness, somnolen tremor, insomnia, hallucinations, and amne
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiti mild elevations of alkaline phosphatase, SG SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensiti
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes vasospastic angina developed periods of transient asymptom asystole approximately five hours after receiving a single 60- dose of CARDIZEM.

The following postmarketing events have been reported in quently in patients receiving CARDIZEM: erythema multiforme; kopenia; and extreme elevations of alkaline phosphatase, SG SGPT, LDH, and CPK. However, a definitive cause and effect betwe these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limit Single oral doses of 300 mg of CARDIZEM have been well tolera by healthy volunteers. In the event of overdosage or exaggerat response, appropriate supportive measures should be employed addition to gastric lavage. The following measures may be consider

Bradycardia	Administer atropine (0.60 to 1.0 mg). If th is no response to vagal blockade, adminis isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed hi degree AV block should be treated with c diac pacing.
Cardiac Failure	Administer inotropic agents (isoproteren dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarteren bitartrate).

Actual treatment and dosage should depend on the severity of t clinical situation and the judgment and experience of the treati physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/ and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s these species were 60 and 38 mg/kg, respectively. The oral LD_{50} dogs is considered to be in excess of 50 mg/kg, while lethality w seen in monkeys at 360 mg/kg. The toxic dose in man is not know but blood levels in excess of 800 ng/ml have not been associat with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Co nary Artery Disease or Angina Pectoris at Rest Due to Co nary Artery Spasm. Dosage must be adjusted to each patien needs. Starting with 30 mg four times daily, before meals and bedtime, dosage should be increased gradually (given in divid doses three or four times daily) at one- to two-day intervals un optimum response is obtained. Although individual patients m respond to any dosage level, the average optimum dosage ran appears to be 180 to 240 mg/day. There are no available data conce ing dosage requirements in patients with impaired renal or hepa function. If the drug must be used in such patients, titration should carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acu anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safe coadministered with short- and long-acting nitrates, but the have been no controlled studies to evaluate the antiangin effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

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■ **Mark H. Mellow, MD, and Gretchen A. McCoy,** MD, of the Oklahoma City Clinic's Department of Gastroenterology, have been named recipients of the Charlotte S. Leebron Memorial Trust Award for 1984. The award goes to the physician(s) whose scientific paper was deemed most worthy among those published in the OSMA JOURNAL during the year. The winning paper, selected by the Editorial Board of the JOURNAL at their annual meeting in February, is entitled "Endoscopic Laser Therapy in the Palliative Treatment of Colorectal Carcinoma: A Case Report." It appeared in the November 1984 issue of the JOURNAL. The award was presented at the OSMA's Annual Meeting early this month.

■ **The Oklahoma Occupational Medical Association** will hold its Fall Scientific Meeting on Friday, September 20, and Saturday, September 21, 1985, at the Marriott Hotel in Tulsa. For further information contact George W. Prothro, MD, 2808 South Sheridan Road, Tulsa, OK 74129.

■ **Use of electric-shock paddles to restore** heartbeat in an infant can cause severe hemorrhaging, according to a report in the April *Archives of Pathology and Laboratory Medicine.* Joseph C. Parker, Jr., MD, and colleagues from the University of Tennessee Memorial Research Center in Knoxville report autopsy findings in an eight-month-old boy with severe cardiorespiratory problems. Resuscitation efforts with adult cardioverter paddles in an emergency room apparently caused hemorrhages throughout the spinal cord. "Use of adult cardioversion equipment in an infant may alter the amperage by decreasing resistance and, thus, create a potential hazard," they say.

■ **Four antiseptics directly applied to cultured** human fibroblasts (connective tissue cells that proliferate at sites of chronic inflammation) were found to be cytotoxic in a study by surgeons at the VA Medical Center in Gainesville, Fla. "All of the cytotoxic agents except hydrogen peroxide were subsequently found to adversely affect wound healing," say William Lineaweaver, MD, and colleagues in the March *Archives of Surgery.* "Our experiments (provide) quantitative evidence of the unsuitability of four commonly used topical agents for wound care," they say. The agents are povidone-iodine, acetic acid, hydrogen peroxide, and sodium hypochlorite.

■ **Gravity inversion, or head-down vertical posturing,** may relieve back pain but it also may create intraocular pressures that threaten vision, according to a report in the *Journal of the American Medical Association (JAMA,* Mar 22). Thomas R. Friberg, MD, and Robert N. Weinreb, MD, of the University of Texas Health Science Center at Dallas, compared data on intraocular pressure in the sitting position with the inversion position and found that average pressure more than doubled with inversion, from 14.1 mm Hg to 35.6. "Pressures in the central retinal artery underwent similar increases," they say. "It seems prudent to recommend that prolonged periods of inverted posturing be avoided," they conclude, stressing that patients with retinal vascular abnormalities avoid inversion altogether.

■ **The AMA will place new emphasis on grass-**roots lobbying activities to promote the interests of organized medicine. Programs to encourage physicians and their spouses to serve as "key contacts" with members of Congress will supplement staff lobbying efforts and contributions by political action committees. "Physicians have long been regarded as opinion makers and community leaders," AMA Executive Vice President James H. Sammons, MD, said. "Their involvement in helping shape public policy is the result of the high priority they place on good citizenship and activism." The AMA will work with state, local, and specialty societies to develop a cadre of physicians and spouses who are knowledgeable, politically sophisticated, and willing to devote the time to foster communications with members of Congress.

■ **In the near future, the American Medical Po-**litical Action Committee will offer advance courses to prepare MDs and their spouses to serve as political campaign leaders, including headquarters managers, press contacts, and finance chairmen. Another course, to be scheduled for five days this summer, will prepare them to be campaign managers. A third course will train physicians to become candidates and run for office.

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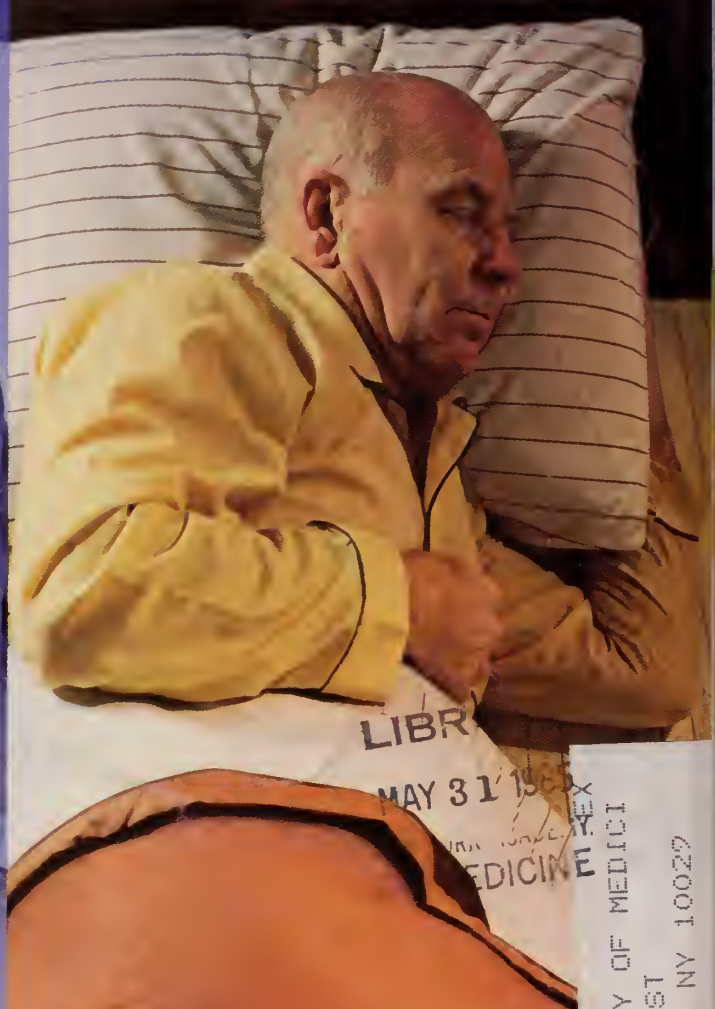
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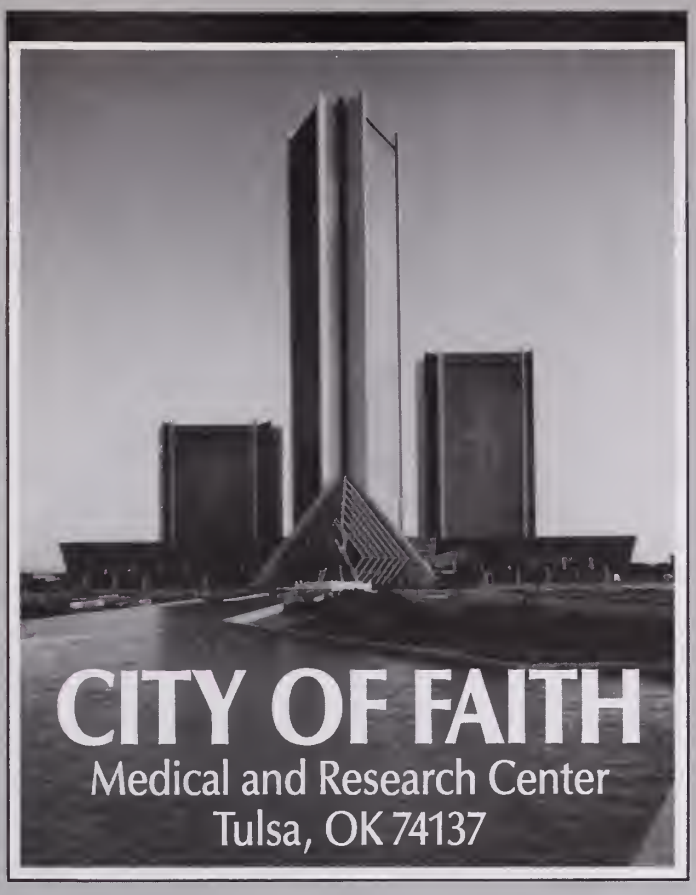
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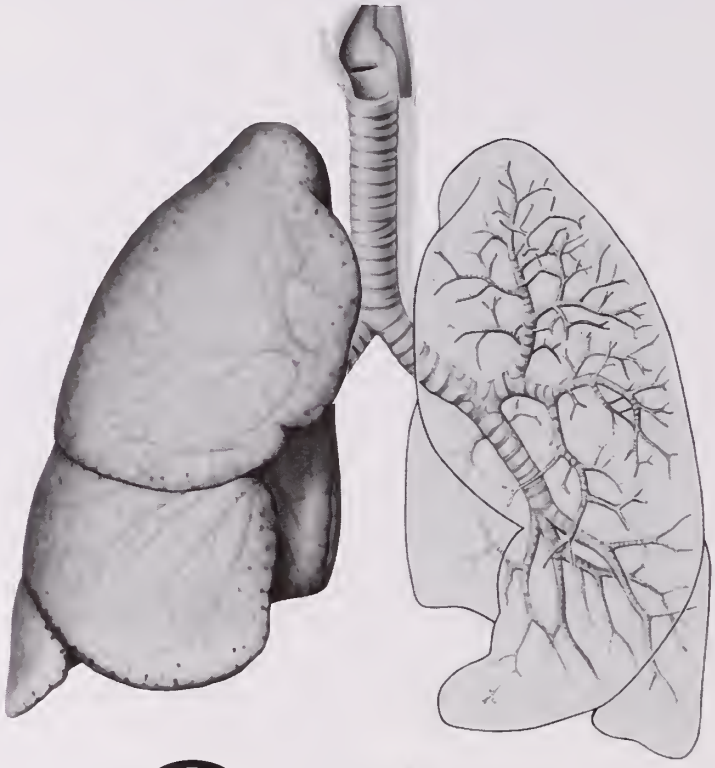
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Indications and Usage: Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out

Precautions: *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

{0617B2R}

Note: Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information

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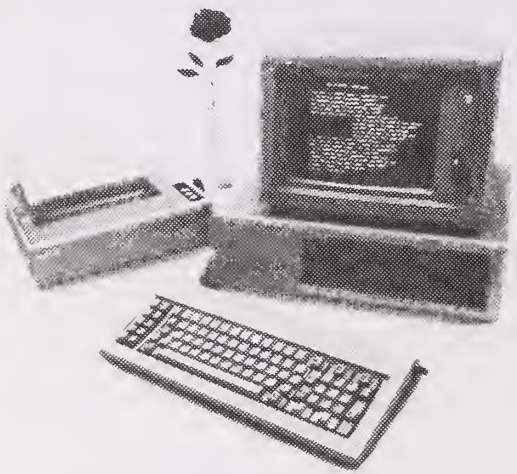
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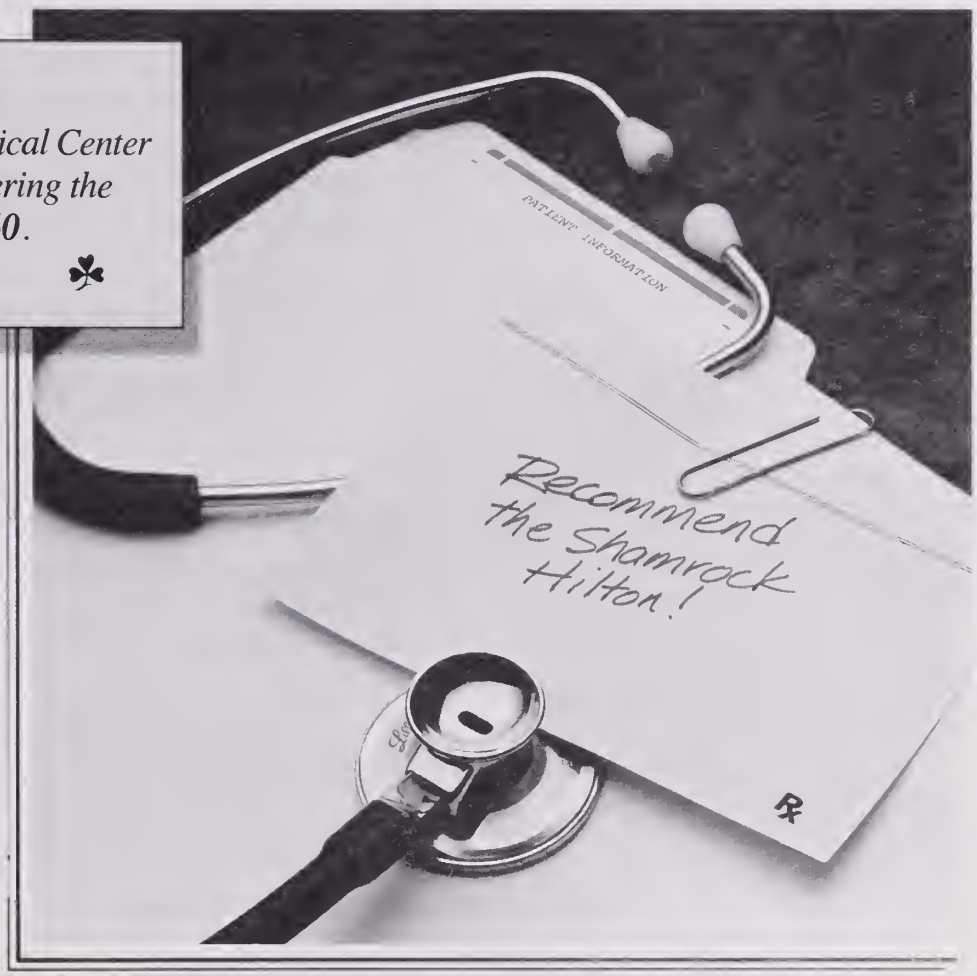
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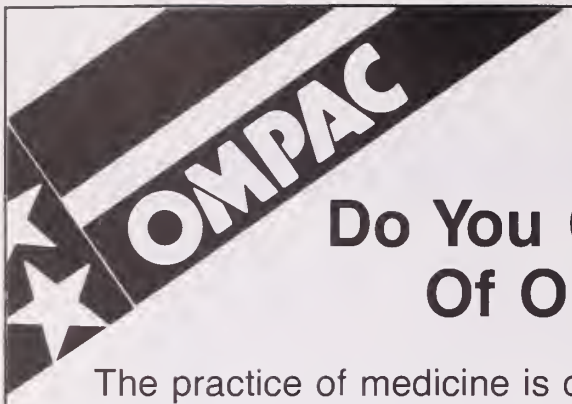
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Do You Care About The Future Of Organized Medicine?

The practice of medicine is directly affected by Congress and the Legislature. Together we must work to elect candidates who respect our professional goals of delivering, economically and efficiently, the finest health care in Oklahoma, the United States and the World!

Resolution adopted by the OSMA House of Delegates, May 4, 1985

Resolved, That the Oklahoma State Medical Association encourage the Oklahoma Medical Political Action Committee to mount an intensive campaign designed to increase physician giving and the amount of contributions; and be it further

Resolved, That OMPAC be encouraged to hold meetings for physicians in each county of Oklahoma at which the objectives of the organization and its programs can be explained; and be it further

Resolved, That the Council on State Legislation and the Council on Governmental Activities encourage that every physician member of the OSMA contribute the minimum membership of fifty dollars ($50.00) to OMPAC and wholeheartedly urge all members to increase their membership where feasible.

JOIN OMPAC NOW!

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Personal check enclosed for ☐ $200 ☐ $100 ☐ $50

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Heading Into the Sunset

After weeks of bad weather, flooded river crossings, encounters with hostile Indians, and lost wagons and horses, the wagonmaster faced his most formidable task. He had to announce to the already morose and miserable band of westbound pioneers that the food stores were totally depleted. Added to their misery, the threat of starvation could destroy their fading hopes of survival.

Finally, the wagonmaster called a meeting. He had decided to soften the blow as much as possible.

"Folks," he began, "I've got some bad news —" He paused to measure the reaction on the dust-stained, sweat-streaked, red-eyed faces. "— and some good news." Expressions of apathy changed to skeptical anticipation as the faces turned from one to another, then back to the resourceful leader.

"The bad news is that we've run out of food and there's nothing to eat but buffalo chips," the booming voice announced, "and the good news is there's lots of buffalo chips!"

I know it's a joke you've probably heard more than once, but I can't escape the metaphorical quality of that old story and the situation most of us physicians are in today.

Every day presents us with new opportunities to relinquish our authority in the arena of health care and *none* of our responsibility. Many of these opportunities are actual mandates or blatant threats, and they come from all quarters: our state and federal governments, private insurance companies, corporate employers, lobbyists, hospitals, and the ever-lengthening alphabet maze of colleague groups. From whichever quarter and with whatever name, their principal commodity is the authority that is wrested from physicians through negotiated contract or is usurped by fiat. In effect the authority rightfully and properly belonging exclusively to the physician and his patient becomes — via the terms of the contract or law — merchandise that is sold in the marketplace.

Currently there is an almost frantic rush of physicians to sign away or otherwise relinquish their authority in providing medical care to their patients. In many circumstances, physicians are agreeing to provide care for individuals who are not their patients but who are delivered into their care through the terms of a contract to which the physician is not party.

Much of this is confusing, complicated, and unclear — perhaps by design. However, two aspects of the changing role of the physician in contemporary society are *not* complicated but exquisitely clear: We are voluntarily and involuntarily relinquishing our authority in all matters of medical and health care, and we are not relinquishing or even sharing the total, individual, and collective liability and responsibility we assume in providing that care. It is ours, exclusively, and there's lots of it.

Gather around, colleagues. I've got some bad news and some good news.

— *MRJ*

The Hippocratic Oath



I swear by Apollo Physician, by Asclepius, by Health, by Heal-all, and by all the gods and goddesses, making them witnesses, that I will carry out, according to my ability and judgment, this oath and this indenture:

To regard my teacher in this art as equal to my parents; to make him partner in my livelihood, and when he is in need of money to share mine with him; to consider his offspring equal to my brothers; to teach them this art, if they require to learn it, without fee or indenture; and to impart precept, oral instruction, and all the other learning, to my sons, to the sons of my teacher, and to pupils who have signed the indenture and sworn obedience to the physicians' Law, but to none other.

I will use treatment to help the sick according to my ability and judgment, but I will never use it to injure or wrong them.

I will not give poison to anyone though asked to do so, nor will I suggest such a plan.

Similarly I will not give a pessary to a woman to cause abortion. But in purity and in holiness I will guard my life and my art.

I will not use the knife on sufferers from stone, but I will give place to such as are craftsmen therein.

Into whatsoever houses I enter, I will do so to help the sick, keeping myself free from all intentional wrong-doing and harm, especially from fornication with woman or man, bond or free.

Whatsoever in the course of practice I see or hear (or even outside my practice in social intercourse) that ought never to be published abroad, I will not divulge, but consider such things to be holy secrets.

Now if I keep this oath and break it not, may I enjoy honour, in my life and art, among all men for all time; but if I transgress and forswear myself, may the opposite befall me.

* * * *

Do you remember the oath of Hippocrates? How long has it been since you read it? How long has it been since you heard it spoken?

The oath may sound idealistic, but most of our patients expect us to honor it.

Sincerely,

Elvin M. Amen, M.D.

Recent Trends in Pregnancy Among Teenagers in Oklahoma

AURORA V. FERMO, MD; SARA REED DEPERSIO, MD; DICK LORENZ, MSPH; MARK OBERLE, MD

Although the fertility rate of Oklahoma's teenagers has declined, the number of live births remains high. Over half of the reported pregnancies among teenagers were associated with an undesirable outcome.

Since the post–World War II baby boom, the fertility rate of Oklahoma's teenagers has declined steadily from 112.4 births/1,000 women 15 to 19 years old in 1960, to 74.5 in 1980. However, the number of live births to teenagers remains high. Oklahoma teenagers had 10,132 births in 1960 and 10,046 in 1980. The fertility rate for girls 13 to 14 years old rose from 2.2 in 1960 to 3.3 in 1980. Fertility rates differed by race and geographic location. The rates for 15 to 19 year old blacks and Native Americans in 1980 were twice that for whites (127.0/1,000 for blacks, 132.0 for Native Americans, and 64.9 for whites). The Southwest region and nonmetropolitan areas had the highest rates. The out-of-wedlock (OOW) birth ratio for girls 13 to 14 years old rose from 67% of all births in 1972 to 83% in 1980. Blacks had a higher OOW birth ratio than whites (79% vs 22%). Over half of the reported pregnancies among teenagers were associated with an undesirable outcome. OOW births accounted for 24% of pregnancies, whereas induced abortion accounted for 26%. In addition, an unknown number of births from unplanned pregnancies occurred among married teenagers. If current trends continue, the Oklahoma Family Planning Program may not be able to achieve the goals set by the Surgeon General's report for 1980. To address the problem, Oklahoma, through its Title X family planning clinics, expanded services so that the annual number of teenagers using contraceptives rose from 11,002 in 1972 to 12,116 in 1980.

Introduction

The repercussions of a teenage pregnancy are lifelong, felt by both the child and the mother. It is, therefore, of paramount importance that health practitioners and policymakers be aware of the dimension of the teenage pregnancy problem. In 1960 Oklahoma had a teenage fertility rate of 112.3 per 1,000 teenagers, ranking tenth highest among all the states.[1] By 1980 Oklahoma had moved up to fourth place despite a decline in the teenage fertility rate to 74.5 per 1,000. In comparison, in 1980 the national rate was 53.0. In this study, we have used preliminary data from the 1980 census to describe the patterns of teenage pregnancy in Oklahoma for different racial groups and geographical areas.

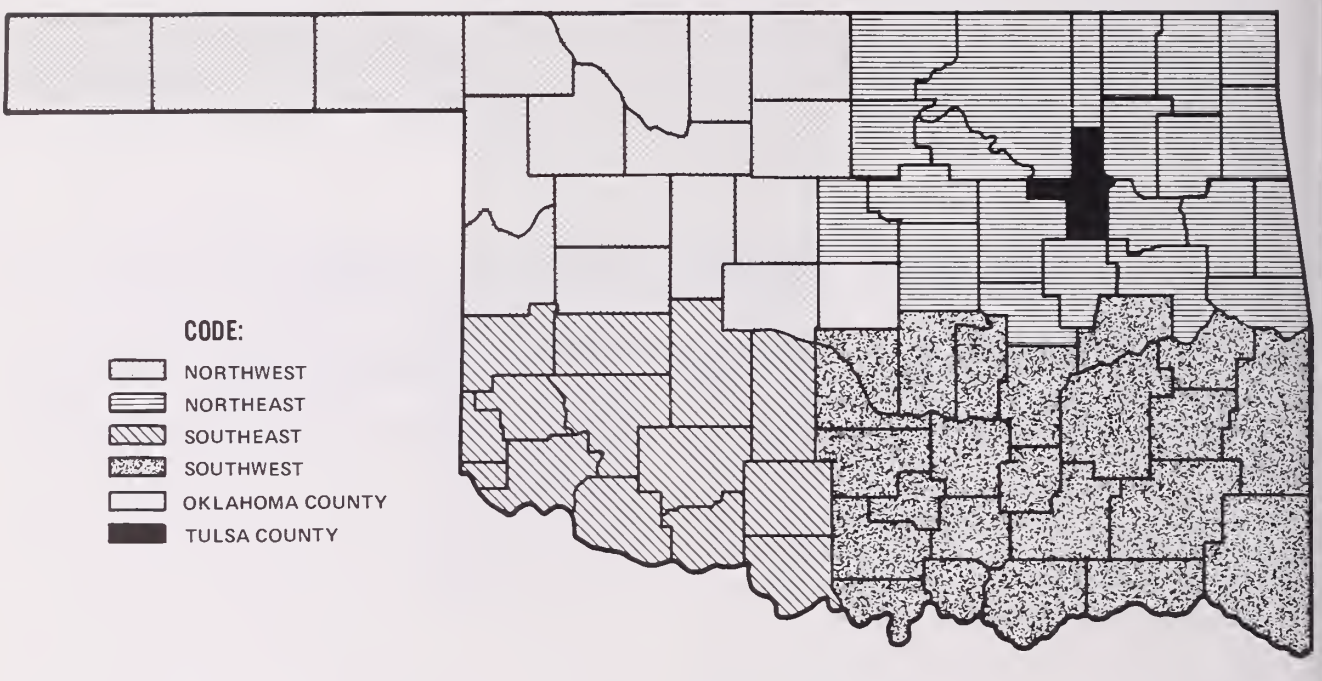
Although the teenage fertility rate of Oklahoma has been declining for the past 30 years, the fertility rate for girls aged less than 15 years showed fluctuations within this period. This, coupled with a rise in the OOW birth rate, suggests that there is a serious teenage fertility problem in Oklahoma.

Aurora V. Fermo, MD, United States Department of Health and Human Services, Public Health Service, Centers for Disease Control, Atlanta, GA 30333.

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Figure 1

GEOGRAPHICAL DIVISIONS OF OKLAHOMA



Glossary of Terms

OOW— Out-of-Wedlock
SMSA— Standard Metropolitan Statistical Area
ASFR— Age-Specific Fertility Rate

Table 1. Live Births by Race and Age-Specific Fertility Rates (ASFR) by Race, Region, and Metropolitan Areas, Women 14-19 Years of Age—Oklahoma, 1980

Fertility Measures	Age 14	15-17	18-9	15-19
Number of Live Births				
TOTAL	115	3,618	6,428	10,046
Whites	64	2,506	4,749	7,255
Blacks	35	622	879	1,501
Native Americans	16	490	800	1,290
ASFR				
TOTAL	5.1	46.4	113.0	74.5
Whites	3.4	38.8	100.0	64.8
Blacks	18.1	92.8	182.2	130.2
Native Americans	8.5	80.7	217.6	132.1
ASFR by Region				
Northeast	5.3	41.2	106.5	69.0
Northwest	3.5	47.5	109.9	74.0
Southeast	3.9	47.4	106.2	71.0
Southwest	7.1	50.8	144.8	89.4
Oklahoma County	4.8	48.8	115.6	77.0
Tulsa County	6.3	46.8	109.2	72.9
ASFR by Metropolitan Areas				
Metropolitan	5.3	50.0	110.0	71.0
Nonmetropolitan	4.8	50.0	120.0	78.3

Methodology

In this study the term "teenager" refers to women aged 15 to 19 years unless otherwise specified. Since detailed county and racial information was not available at the time of this writing, some of the analysis is restricted to black and white racial groups.

For the purposes of this study, we divided the state geographically into four quadrants and two urban counties: the Southwest (SW), Northeast (NE), Northwest (NW), and Southeast (SE), as well as Oklahoma County and Tulsa County. Two major interstate highways serve as boundaries for these four geographical regions (Fig 1). Geographical differences were also analyzed by dividing the state into metropolitan and nonmetropolitan areas, ie, those counties within the Standard Metropolitan Statistical Areas (SMSA) and those outside SMSAs respectively. The 1980 birth and fetal death certificates from the Oklahoma State Department of Health, Vital Records, were used; reports of induced abortions were obtained from the Maternal and Child Health Service, Oklahoma State Health Department. The total number of reported pregnancies for each group was estimated by adding live births, induced abortions, and reported fetal deaths. Certain rates were standardized for race, but only for black and white racial groups because detailed regional denominators for Native Americans were not available.

The age-specific fertility rates (ASFRs) were projected for 1990 for girls aged 14, 15, 16, and 17 by using linear regression, assuming that the trend for

Figure 2

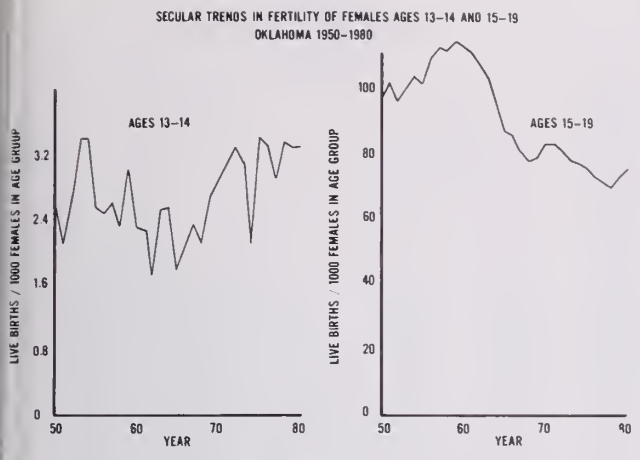
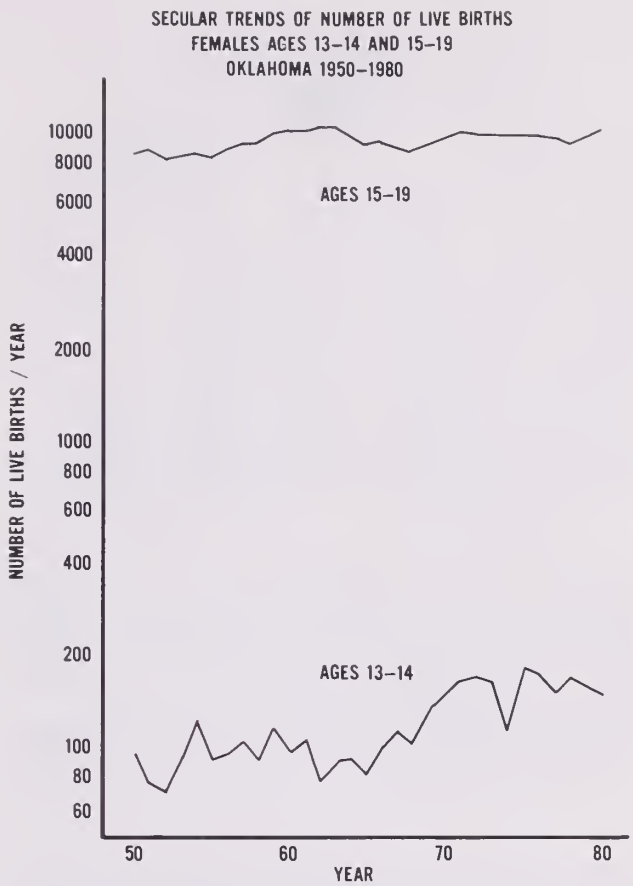


Figure 3



each age group for 1970 to 1980 would continue.

The *age-specific fertility rate* represents the total number of live births among 15- to 19-year-olds per 1,000 female population of the same age group. The OOW *birth rate* is the number of OOW births among the 15- to 19-year-olds per 1,000 unmarried women aged 15 to 19. The OOW *birth ratio* is the number of OOW births per 100 total births for women 15 to 19.

Findings

The ASFR of teenagers decreased by 22% between 1950 and 1980, from 96.4 to 74.5/1,000 women 15 to 19, with a peak of 113 in 1959 (Fig 2). The rate increased in both 1979 and 1980 since the low in 1978. However, although the ASFR decreased by 22%, the number of live births increased. Oklahoma had 8,537 live births to teenagers in 1950 and 10,046 in 1980 (Fig 3). This is due to the increase in the number of women in the 15 to 19 population. If the 1950 rate had remained unchanged, 13,000 births would have occurred in 1980, rather than 10,046.

In contrast to the overall decrease for older teens (15 to 19), the ASFR for girls 13 to 14 years old decreased from 3.4 in the early 1950s to a low of 1.7 in 1962 but then increased once again to a level of 3.3 in 1980 (Fig 2). However, the rates for 13- to 14-year-olds have fluctuated from year to year.

When examined by single years of age, the fertility rate in 1980 increased steadily with age, with the 14-year-olds having a rate of 5.1 and the 19-year-olds having a rate of 123.8 in 1980 (Fig 4).

The ASFR in 1980 differed by race and location (Table 1). The rates for 15- to 19-year-old blacks and Native Americans were twice the rate for whites (130.2 per 1,000 for blacks, 132.1 for Native Americans, and 64.8 for whites). Among girls age 14 through 16, blacks had the highset ASFR, while Native Americans had the highest rates for women 18 and 19 (Fig 5).

The southwest region had the highest teenage fertility rate (89.4), approximately 17% higher than the state level (74.5) (Table 1). The northeast region had the lowest fertility rate (69.0) for both blacks and whites. The southwest region had the highest fertility rate for both black and white racial groups (Fig 6). Race standardization did not eliminate the difference among the regions. The rate before standardization was 67.1/1,000 for the lowest vs 86.0 for the highest region, compared to the rate after standardization: 63.3/1,000 for the lowest vs 85% for the highest (not shown in table).

The ASFR was somewhat higher in the nonmetropolitan counties than in the metropolitan counties (78.3/1000 vs 71.0). However, race standardization virtually eliminated the difference between metropolitan and nonmetropolitan areas (65.1/1,000 vs 66.6; not shown in table).

As with fertility rates, OOW birth ratios differed by age, race, and location (Table 2). In 1980, OOW births constituted 31.9% of births to teenagers, up from 25% in 1972. Teenagers accounted for 51% of

Figure 4

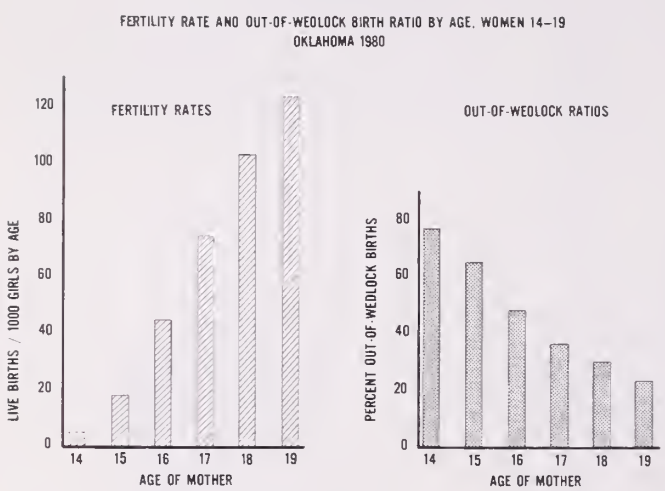
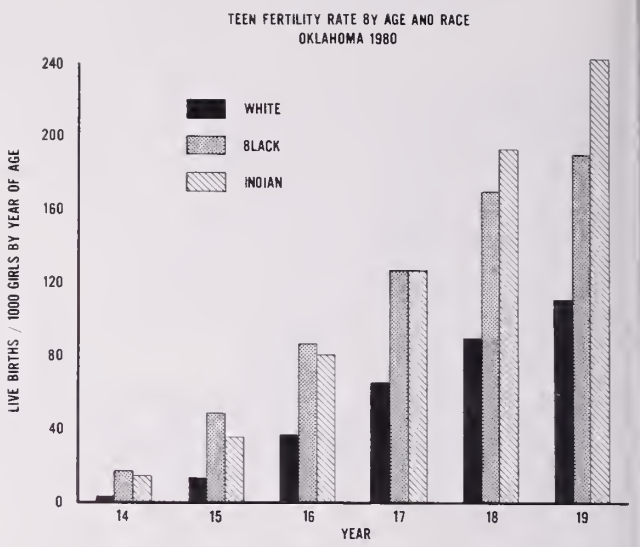


Figure 5



all OOW births in 1972 and also 47% in 1980. There was a remarkable increase in the OOW birth ratios for 13- to 14-year-olds: from 67% in 1972 to 83% in 1980 (data not shown).

Blacks had higher OOW birth ratios than whites: 78.7% for blacks compared to 22.3% for whites (Table 2). The ratio for Native Americans more closely resembled the ratio for whites, (33.2 percent) as shown in Table 2.

Out-of-wedlock birth ratios increased inversely with age: 77% of births to the 14-year-olds were out of wedlock compared to 22% for the 19-year-olds (Fig 4).

Tulsa County had the highest proportion of OOW births (43.0%), while the northwest region had the lowest (22.6%) (Fig 7). Race standardization reduced but did not eliminate the regional differences in OOW birth ratios. The rates before standardization were: 20.3% for the lowest vs 44.3% for the highest region, compared to 24.3% for the lowest vs. 37.7% for the highest region after standardization (not shown in table). Sixty percent of the state's teenage OOW births occurred in metropolitan areas and the metropolitan areas had a higher OOW birth ratio than the nonmetropolitan areas. However, race standardization practically eliminated the difference between the two areas (33.7 vs 30.0; not shown in table).

There were also marked race and age differences in reported induced abortions (Table 3). Collectively, teenagers accounted for 31.0% of induced abortions in Oklahoma in 1980 — about the same proportion as in the rest of the US in the same period (28.2%).[2] Of these induced abortions, 83.0% occurred among whites, 9.5% among blacks, and 5.7% among Native Americans. The racial distribution of Oklahoma's teenage population is: 82% whites, 9.0% blacks, and 7.0% Native Americans.

Blacks had a slightly higher abortion rate than whites and Native Americans, 29.0/1,000 women 15 to 19 for blacks, compared with 26.0 for whites and 21.0 for Native Americans. However, among teens ages 18 to 19, white teenagers had slightly higher

Table 2. Out-of-Wedlock (OOW) Birth Ratios by Race, Region, and Metropolitan Areas — Women 14-19 Years of Age, Oklahoma, 1980

	Age			
	14	15-17	18-19	15-19
Number of OOW Births				
TOTAL	91	1,537	1,660	3,197
Whites	42	800	816	1,616
Blacks	35	527	626	1,153
Native Americans	14	210	218	428
OOW Birth Ratios by Race				
TOTAL	79.1	42.5	25.8	31.8
Whites	65.6	31.9	17.2	22.3
Blacks	100.0	84.7	71.2	78.7
Native Americans	87.5	42.9	27.3	33.2
OOW Birth Ratios by Region				
TOTAL	76.7	42.5	25.8	31.8
Northeast	85.7	29.0	18.9	30.0
Northwest	83.3	42.2	23.8	22.6
Southeast	55.6	39.1	21.9	25.0
Southwest	70.0	34.0	19.0	43.0
Oklahoma County	94.7	55.0	33.9	41.3
Tulsa County	85.7	54.2	36.2	43.0
OOW Birth Ratios by Metropolitan Areas				
Metropolitan	87.9	48.4	29.2	36.0
Nonmetropolitan	67.4	36.6	21.9	27.1

Figure 6

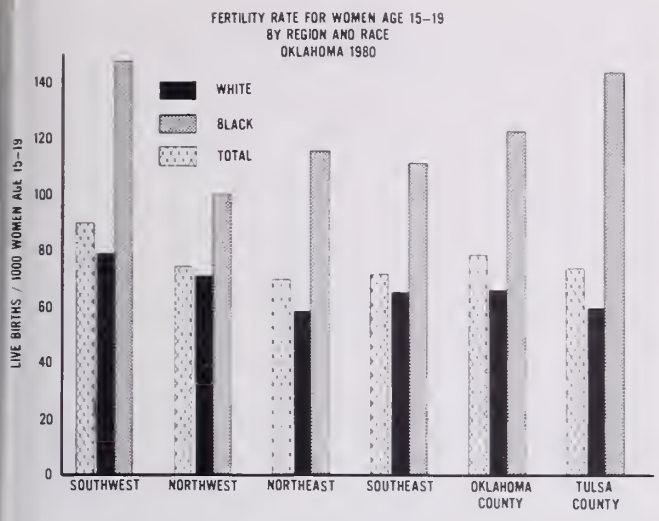
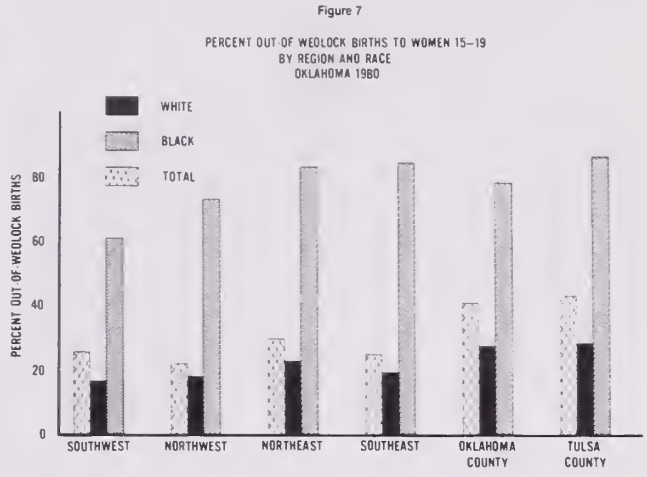


Figure 7



abortion rates. For all races, abortion rates increased with age, from 4.7/1,000 for the 14-year-olds to 38.3/1,000 for the 19-year-olds.

The abortion-to-live-birth ratio for teenagers in the state was 35.1%. Whites had a higher abortion ratio than blacks and Native Americans: 38.5%, 23.4%, and 20.2%, respectively.

Of all reported teenage pregnancies, 50.0% resulted in an in-wedlock live birth, 23.0% resulted in an OOW birth, and 26.0% resulted in an induced abortion (Fig 8). Data used to calculate teenage pregnancy outcomes, by race, show that 85.0% of white and 67.0% of Native American teenage pregnancies resulted in in-wedlock births compared with 36.0% for blacks. Only 15.0% of white and 33.0% of Native American teenage pregnancies resulted in OOW births, compared with 64.0% for blacks. On the other hand, only 19.0% of blacks and 20.0% of Native American teenage pregnancies resulted in induced abortions as compared to 28.0% for whites.

Discussion

In 1980, teenagers constituted one-fifth of Oklahoma's women of reproductive age. They contributed one-fifth of total births, one-third of all abortions, and almost one-half of all OOW births.

Although the ASFR for teenagers has decreased for the last two decades, the rate remains high compared with the national rate. The OOW birth ratio has increased from 25.0% to 31.8%, and the OOW birth rate increased from 17.7/1,000 unmarried teenagers in 1970 to 28.1 in 1980.[3]

As shown in this report, Oklahoma has racial and geographical differences in fertility rates, abortion rates, and the percent of OOW births. These descriptive data, however, do not allow detailed analysis of the causes of these differences. Factors such as socioeconomic status, education, attitudes toward abortion, and sexual activity may partly explain the variation in rates of the different regions.[4]

Among the factors that may contribute to the higher black fertility rate is the proportion of pregnant blacks who obtain abortions: In the State of Oklahoma, only 19% of their total reported pregnancies ended in abortions compared to 29% for whites. Another contributory factor, reported by a national study, is that blacks are more likely to initiate sexual

Table 3. Abortion Characteristics, Teenagers by Race and Age — Oklahoma, 1980

Abortion Characteristics	Age			
	14	15-17	18-19	15-19
Abortions				
TOTAL	106	1,331	2,201	3,531
Whites	71	1,083	1,083	2,933
Blacks	25	156	180	336
Native Americans	10	92	171	262
Abortion Rate by Race				
TOTAL	4.7/1,000	17.06/1,000	38.3/1,000	26.0/1,000
Whites	3.9	16.8	38.9	26.0
Blacks	11.9	23.2	37.3	29.0
Native Americans	4.8	11.4	36.7	21.0
Abortion to Live Birth Ratio				
TOTAL	73.0%	34.0%	29.0%	35.1%
Whites	100.0%	43.2%	35.9%	38.5%
Blacks	45.0%	25.0%	20.4%	23.4%
Native Americans	64.0%	17.6%	21.9%	20.2%
Abortions as Percent of Total Reported Pregnancies				
TOTAL	41.5%	26.6%	22.2%	26.0%
Whites	48.9%	29.9%	26.9%	28.0%
Blacks	31.2%	20.9%	17.1%	19.0%
Native Americans	41.5%	19.0%	21.5%	20.5%

intercourse at an earlier age than whites and thus are more likely to be exposed to the risk of pregnancy at an earlier age, when abortion ratios are lower for blacks than for whites (Table 3).[4]

Contraceptive use patterns also contribute to racial differences in fertility rates. Nationwide in 1979, white teenagers in metropolitan areas were more likely to use a contraceptive at first intercourse (51%) than blacks (41%).[5] One study found that black teenage mothers, after giving birth to their first child, were less likely than whites to use contraceptives during the period from 3 to 12 months after the birth (76.0% vs 84.0%). The racial difference in contraceptive use is most striking for those mothers whose first birth occurred before age 18: 68.0% for blacks vs 85.0% for whites.[6]

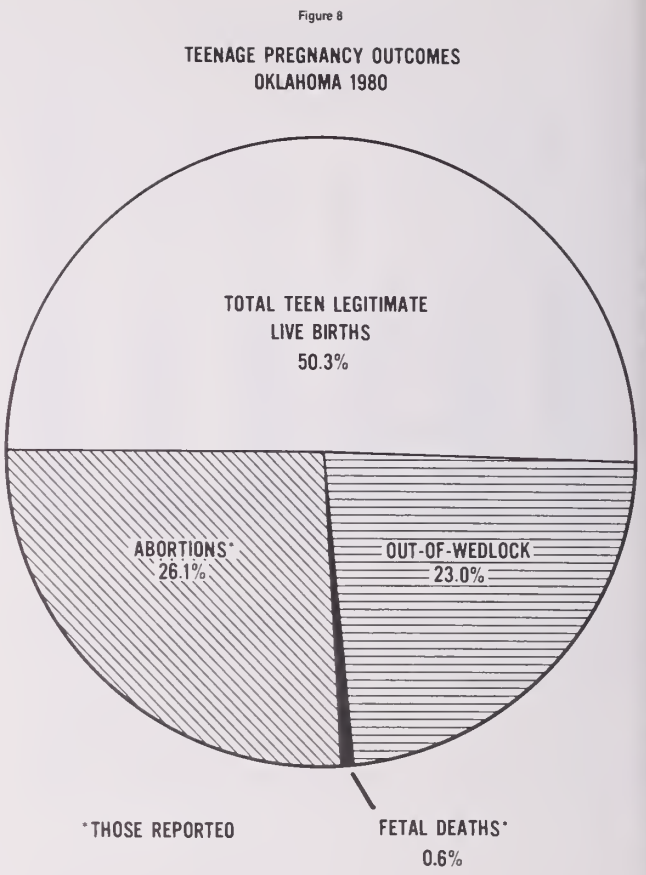
As with fertility rates, no clear-cut variables associated with the higher OOW birth ratio among blacks can be derived from this study; however, these results are consistent with national data. A study by Zelnik and Kantner revealed that about two-thirds of all premarital first pregnancies among black teenagers ended in OOW births, whereas only one-fifth of premarital first pregnancies in whites have such an outcome.[7] This difference arises in part from the tendency of whites to resolve a premarital pregnancy either by marriage or by termination by induced abortion.[7] Another study shows that, proportionately, twice as many black teenagers as white (25.0% vs 13.0%) state that they were trying to become pregnant or that they did not care if pregnancy occurred.[5] Abortion and marriage have been and may still be options more commonly chosen by pregnant white teens than by their black counterparts.[7]

The differences in the racial composition of the geographical regions partly explain the variation in the proportion of OOW births among the different areas of the state. This was shown by the decrease in the differences among the geographical divisions after standardization for race.

The negative consequences of teenage pregnancies include a higher risk of adverse neonatal outcome because of low birth weight, increased risk for postneonatal mortality and morbidity, and the socioeconomic disadvantage characteristic of young mothers.[8] Even if teenagers do marry, they are far more likely to become divorced or separated than those who delay marriage and childbearing.[9] Early age at first sexual intercourse is also a strong risk factor for cervical cancer.[10]

If society considers abortions and OOW births as unfavorable pregnancy outcomes, we find that 50% of Oklahoma's teenage pregnancies lead to one or the other outcome (Fig 8). Teenage mothers themselves consider OOW births undesirable. A national survey

Figure 8



in 1976 revealed that more than two out of three babies born out of wedlock among 15- to 19-year-olds resulted from unintended pregnancies,[11] whereas only one out of five births of intra-marital first pregnancies resulted from unintended pregnancies. National studies also show that nearly two-thirds of all adolescent pregnancies and one-half of adolescent births are unintended.[12]

Two recent studies have attempted to evaluate the economic impact of averting or postponing births to teenagers. Chamie and Henshaw estimate that for teenagers, the federal government saves $3 in health and welfare costs for every dollar spent in contraceptive services.[13] Although teenagers accounted for only

Table 4. Fertility Rates 1980, National Goal 1990, Projected Fertility 1990 — Oklahoma

Age	Fertility Rate 1980	National Goal for 1990	Projected Fertility Rate for 1990	95% Confidence Interval
14	5.1	0	5.7	4.2- 7.2
15	17.6	10.0	19.8	14.6-22.0
16	44.1	25.0	43.7	34.4-53.1
17	74.6	45.0	75.2	61.5-88.8

one-third of the clinic patients served nationally in 1979, nearly half of the federal and state government savings can be attributed to family planning clinic services to women in their teens. Furthermore, this cost savings is probably underestimated because the cost to the individual, such as lost earnings, has not been accounted for. In California, the Department of Health calculated that if only 20% of eligible minors used contraceptive services and only 10% of teenage pregnancies were prevented, the net savings to that state would be $23 million in the first year.[14]

The national objectives for family planning for 1990 set down in the Surgeon General's report for 1980 include reducing fertility rates and births from unintended pregnancies among teenagers.[15] These objectives are:

a. By 1990 there should be virtually no unintended births to girls 14 years old and younger. (In 1980 there were 10,109 births in this age group in the US.)
b. By 1990 the fertility rate for 15-year-old girls should be reduced to 10 per 1,000. (In 1980 there were 14.4 births per 1,000 for this age group in the US.)
c. By 1990 the fertility rate for the 16-year-old girls should be reduced to 25 per 1,000. (In 1980 there were 30.9 births per 1,000 for this age group in the US.)
d. By 1990 the fertility rate for 17-year-old girls should be reduced to 45 per 1,000 (In 1980 there were 51.5 births per 1,000 for this age group in the US.)

Table 4 shows the projected age-specific fertility rates for 1990 for girls aged 14 to 17 in Oklahoma. Assuming that current trends continue, the Oklahoma Family Planning Program may not be able to achieve the goals set down by the Surgeon General's report for 1980:

a. By 1990 the fertility rate for 14-year-old girls in Oklahoma would be 5.7/1,000. (In 1980 there were 5.1 births per 1,000 for this age group.)
b. By 1990 the fertility rate for the 15-year-old girls in Oklahoma would be 19.8/1,000. (In 1980 there were 17.6 births per 1,000 for this age group.)
c. By 1990 the fertility rate for the 16-year-old girls in Oklahoma would be 43.7/1,000. (In 1980 there were 44.1 births per 1,000 for this age group.)
d. By 1990 the fertility rate for the 17-year-old girls in Oklahoma would be 75.1/1,000. (In 1980 there were 74.6 births per 1,000 for this age group.) □

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Limiting Antibiotics on the Hospital Formulary

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Many hospital pharmacies are starting to limit their formularies. Since antibiotics are one of the most expensive and heavily used classes of drugs, elimination of unnecessary antibiotics is a logical step. The following is a suggested "bare minimum" of antibiotic armamentarium that should be stocked by the hospital pharmacy. Such a limited formulary will result in cost savings to the hospital and the patient. It will also help the physicians become proficient in the use of a limited number of antibiotics, thus serving an educational function as well.

In the past, most private or community hospitals have enjoyed open formulary systems. Any drugs that the physicians wanted to use were usually stocked in the pharmacy, readily available by physician order. The only hospitals that restricted their formularies were those on relatively fixed budgets, such as VA hospitals, US public health hospitals, and some university hospitals. Because hospital costs have become a national concern in this era of prospective reimbursement plans, many private hospitals, as a cost-cutting measure, have begun to limit the number of drugs available in their pharmacies.

Limiting the size of the hospital formulary achieves several goals. By reducing the stockpiles of generically equivalent drugs, the pharmacist can prevent the waste that occurs when infrequently used drugs pass their expiration dates and must be discarded. Also, fewer hours will be spent maintaining inventories.

Many hospitals have begun stocking only one drug in a given therapeutic class. Such a move may open the way for competitive bidding among the various pharmaceutical companies trying to corner the concession of that drug, thus driving down the acquisition costs of the drug. This can result in substantial savings to the hospital, especially where heavily used drugs such as antibiotics are involved.

Many hospital pharmacies began formulary limitations with drugs having identical chemical structures, so called "generic equivalents." Now, many hospital pharmacies are limiting classes of drugs that may not be chemically identical but nevertheless have similar pharmacologic action and spectra, so called "therapeutic equivalents."

Since antibiotics represent one of the most frequently used classes of drugs in most hospitals, they are often the first to be limited. Because newer antibiotics are being released almost monthly, it seems logical that some control over their availability within a hospital should be imposed. Many "newer" antibiotics are actually modifications of older drugs with few if any advantages over the original ones, and in a sense they are obsolete when released. Physicians cannot be expected to maintain expertise in the use of all these drugs, and by limiting the availability of supernumerary antibiotics, the pharmacy actually provides the physician a valuable service.

The following discussion contains recommendations for limiting the antibiotics available in a hospi-

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Table 1. Penicillin Derivatives

Drug to Retain	Route	Dosage Forms	Drugs to Eliminate
Potassium penicillin V	PO	250, 500 mg tabs A suspension	Oral penicillin G
Aqueous pen. G potassium (sodium salt)*	Parenteral	Various	
Benzathine penicillin LA	Parenteral	1.2 mil units	Benzathine penicillin CR
Procaine penicillin G	Parenteral	600,000 units 1.2 mil units	
Amoxicillin	PO	250,500 mg caps A suspension	Oral ampicillin, hetacillin, cyclacillin, bacampicillin
Ampicillin sodium	Parenteral	1, 2 gram	
Cloxacillin†	PO	250, 500 mg caps	Dicloxacillin,† nafcillin, oxacillin
Nafcillin sodium†	Parenteral	1, 2 gram	Oxacillin,† methicillin
Carbenicillin indanyl Na	PO	382 mg	
Mezlocillin†	Parenteral		Carbenicillin, ticarcillin, piperacillin,† azlocillin

*Optional drug to retain.
†Equivalent drug named in same line.

tal pharmacy. It outlines the bare minimum of antibiotics that should be made available based on their costs, pharmacokinetics, side effects, and antibacterial spectra. As newer (and, one hopes, better) drugs become available, this list should change. In many cases the hospital pharmacist will stock only a single drug and will fill all routine orders for antibiotics in that therapeutically equivalent class with that single drug. However, other drugs within that class may be made available upon special order.

Penicillins (Table 1)

Oral Penicillins. Only generic potassium penicillin V tablets and suspension need be supplied. Penicillin G is poorly absorbed and should not be used. Bioequivalence of the various brand name preparations is roughly the same, and they offer no advantage over the generic forms.

Parenteral Penicillins. Aqueous penicillin G should be available in the sodium salt, since the use of the potassium salt of the drug is undesirable in certain situations, eg, in patients with renal insufficiency where potassium intake must be severely restricted. Also, when high doses of the potassium salt are infused intravenously, pain at the infusion site may be a problem. This can be avoided by using the sodium salt. However, the potassium salt is usually less expensive, and the hospital may wish to stock it as the primary drug, with the sodium salt available on special order. Procaine penicillin G should be available for intramuscular injection. The long-acting benzathine penicillin should be stocked (Bicillin LA). Mixtures of the various benzathine and procaine penicillins have few practical indications and should not be used.

Oral Ampicillins. Amoxicillin has considerable pharmacologic advantage over ampicillin and can usually replace generic ampicillin as well as hetacillin, bacampacillin, and cyclacillin. Ampicillin appears to have superiority over amoxicillin only when treating shigellosis. Here the increased absorption of amoxicillin from the gastrointestinal tract gives lower luminal concentration of active drug in the colon, and it is less effective than ampicillin in eradicating the organism. Amoxicillin capsules and suspension should be available. The combination of amoxicillin and clavulanic acid (Augmentin) offers an advantage in antimicrobial spectrum over amoxicillin alone. Its spectrum is more closely related to those of the oral cephalosporins, and many pharmacies may wish to add this drug. It is fairly

Table 2. Cephalosporins

Drug to Retain	Route	Dosage Forms	Drugs to Eliminate
Cefazolin	Parenteral	1 gram	Cephalothin, cephapirin, cephradine
Cefadroxil	PO	500 mg caps A suspension	Cephalexin, cephradine, cefaclor, cephapirin
Cefoxitin	Parenteral	1, 2 gram	Cefamandole, cefonicid, ceforanide, cefuroxime
Ceftriaxone	Parenteral	1 gram	Cefotaxime, ceftizoxime, moxalactam
Ceftazidime*	Parenteral	1, 2 gram	Cefoperazone
(Cefoperazone†)			

*Not released by FDA as of this printing; release anticipated soon.
†Optional drug to retain.

expensive, and since other drugs in other classes may substitute for its antibacterial spectrum, it is not a necessary addition to the formulary.

Parenteral Ampicillin. A single generic ampicillin is satisfactory. Parenteral amoxicillin (not available in the US) offers no advantage.

Oral Antistaphylococcal Penicillins. Either cloxacillin or dicloxacillin should be available as a single agent. Although dicloxacillin is reported to give higher serum levels, free drug levels are lower than those of cloxacillin due to higher serum protein binding; therefore, cloxacillin may be the preferred drug. Oral nafcillin and oral oxacillin should not be used because of their erratic absorption rates.

Parenteral Antistaphylococcal Penicillins. Nafcillin is the preferred single drug. The nephrotoxicity and bone marrow toxicity of methicillin are unacceptably high. Oxacillin may be used for its lower phlebitis rate, but it has a potentially high hepatotoxicity.

Antipseudomonal Penicillins. Only one oral antipseudomonal penicillin is available for clinical use. Carbenicillin indanyl sodium should be stocked for the treatment of uncomplicated lower urinary tract infections due to pseudomonas.

Despite heavy claims from the various pharmaceutical companies, there are minimal differences among the various newer parenteral antipseudomonal penicillins and substantial financial savings can be realized if the hospital takes competitive bids for a single agent. These drugs can be divided into the first-generation agents (carbenicillin and ticarcillin) and the newer agents (piperacillin, mezlocillin, and azlocillin). The first-generation drugs have a narrower antibacterial spectrum than the newer agents, so they have no pharmacologic advantages over the newer drugs and they can essentially be eliminated.

Of the newer agents, either piperacillin or mezlocillin can be used. Azlocillin has too narrow a spectrum with nonpseudomonal gram-negative organisms to be kept as a single agent. If bids are similar, mezlocillin offers the advantage of not causing platelet inhibition, and its use may result in less risk of drug-induced bleeding. Despite claims of differences between the drugs with regard to inoculum effect, lower minimal bactericidal concentration for pseudomonas, etc, there have been no studies showing differences in clinical effectiveness with susceptible organisms. Piperacillin may offer some advantage in hospitals that harbor particularly resistant strains of pseudomonas, but this should not be true in most institutions. Timentin (combination of clavulanic acid and ticarcillin) is now available. Although this drug offers advantages in antibacterial spectrum (such as protection against penicillinase-producing staphylococci and klebsiella), other drugs may offer the same spectrum. Pharmacies may not wish to include this drug until more data on its use become available.

Cephalosporins (Table 2)

First Generation Cephalosporins. Fortunately the choice among these drugs is fairly clear. Cefazolin offers substantial pharmacologic advantages over the other agents with virtually identical antimicrobial spectra, and its cost is generally low. A hospital can usually stock cefazolin as the only first-generation cephalosporin for use either therapeutically or prophylactically.

Table 3. Erythromycins, Tetracyclines, and Lincosamides

Drug to Retain	Route	Dosage Forms	Drugs to Eliminate
Erythromycin base	PO	250, 500 mg tabs	Erythromycin base microenteric coated, troleandomycin
Erythromycin ethyl succinate*	PO	400 mg tabs A suspension	Erythromycin stearate,* erythromycin estolate
Erythromycin lactobionate*	IV	500 mg, 1 gm	Erythromycin gluceptate*
Tetracycline HC1	PO	250, 500 mg caps A suspension	Oxytetracycline, chlortetracycline, tetracycline phosphate, methacycline
Doxycycline hyclate	PO	50, 100 mg caps	Minocycline
Doxycycline hyclate	Parenteral	100 mg	Minocycline
Demeclocycline	PO	150 mg	
Clindamycin HC1	PO	150 mg	Lincomycin
Clindamycin palmitate	PO	A suspension	Lincomycin
Clindamycin phosphate	Parenteral	300, 900 mg	Lincomycin

*Equivalent drug named in same line; either may be retained.

Currently oral cephalosporins are available only with first-generation activity. These drugs make up the most frequently used class of oral antibiotics in this country. Their antimicrobial activities are similar, and competitive bidding should lead to a single inexpensive agent. Cefadroxil offers the advantage of b.i.d. dosing, and if acquisition costs are competitive it may be the preferred agent.

Second-Generation Cephalosporins. These drugs are more difficult to cull than the first-generation drugs because they fall into two distinct groups based on differences in antibacterial activity. The first group, the cefamandole-like drugs, includes cefamandole, cefuroxime, cefonicid, ceforanide, and others. These drugs have been made virtually obsolete by some of the third-generation cephalosporins, and it is not imperative that they be maintained on the formulary. Newer drugs in this group are still being marketed, but they are quite literally drugs in search of a disease. Therapeutically, ceftriaxone (a third-generation drug) is probably superior. For prophylaxis these drugs serve no useful purpose since cefazolin is superior for prophylaxis in clean surgical procedures, and cefoxitin is superior for prophylaxis in abdominal surgery.

In the second group are the cefoxitin-like drugs, although only cefoxitin is available in this country. Cefoxitin has possibly the best anaerobic spectrum of activity of all the currently available cephalosporins. It is one of the preferred drugs for prophylaxis in gastrointestinal and gynecologic surgery. Cefoxitin is the only second-generation cephalosporin that should be maintained on the formulary.

If a hospital staff wishes to keep one of the cefamandole-like agents, competitive bidding is probably the way to choose. Cefuroxime offers some advantage in that it can be used for meningitis and has somewhat better beta-lactamase stability, but with the availability of the third-generation drugs, these are relatively minor advantages.

Third-Generation Cephalosporins. Most hospital staffs have been reluctant to limit this group of agents because there are some minor differences in microbiologic activities among the first drugs released in this class. Fortunately, some of the recently released and soon-to-be released drugs may make the selection much simpler. Ceftriaxone's antimicrobial activity is almost identical to that of some of the early agents (cefotaxime, moxalactam, and ceftizoxime), and its extremely long half-life permits once-daily dosing for most infections. It is also effective in the treatment of meningitis. Ceftriaxone can therefore replace earlier agents.

Cefoperazone originally had an advantage in its superior activity against pseudomonas. However, when ceftazidime, which has better anti-pseudomonas activity as well as broader activity against other gram-negative bacilli, becomes availa-

Table 4. Miscellaneous Antibiotics

Drug to Retain	Route	Dosage Form
Chloramphenicol base	PO	250, 500 mg
Chloramphenicol palmitate	PO	A suspension
Chloramphenicol succinate	Parenteral	1 gram
Vancomycin HCl	PO	A suspension
Vancomycin HCl	Parenteral	500 mg
Metronidazole	PO	250, 500 mg
Metronidazole	Parenteral	500 mg
Colistimethate sodium	Parenteral	150 mg

Table 5. Aminoglycosides

Drug to Retain	Route	Dosage Form	Drugs to Eliminate
Gentamicin	Parenteral	80 mg	Parenteral kanamycin, tobramycin
Amikacin	Parenteral	500 mg	Netilmicin
Streptomycin	Parenteral	1 gram	
Kanamycin	PO	500 mg	
Neomycin sulfate	PO	500 mg	

ble, cefoperazone will become obsolete. A hospital can comfortably limit its formulary to ceftriaxone for single-dose daily therapy, and to ceftazidime for broader gram-negative and pseudomonas coverage.

Erythromycins (Table 3)

Oral Erythromycins. Some form of erythromycin suspension must be available for pediatric usage. The ethyl succinate suspension is palatable and is acceptable. Much misinformation has been published regarding serum levels of the various erythromycin tablet formulations. Bioavailability of active drug in the serum is similar for most preparations, and competitive bidding should get the hospital a reasonably priced agent. Erythromycin base must be made available because it retains high levels of active drug in the gastrointestinal tract and is theoretically better for use in the treatment of campylobacter enteritis and in bowel preparations. One of the other esters (ethyl succinate, stearate) may have better gastric tolerance; nausea is a common problem with the erythromycin-base preparations. The estolate preparation should be avoided because of its higher rate of hepatotoxicity. The newer preparations of erythromycin base formulated in enteric-coated microcrystals are too expensive to use. Generic erythromycin base and perhaps one of the esters (stearate, ethyl succinate) are generally all that are needed. Troleandomycin is obsolete, offers no advantage over erythromycin, and should not be stocked.

Intravenous Erythromycins. One of the esters (lactobionate or gluceptate) should be kept on the formulary. These drugs should be used only for intravenous therapy, not for intramuscular injection, irrigation, or topical application, since the esters are biologically inactive and must be converted to an active drug by hepatic enzymes.

Tetracyclines (Table 3)

Oral Tetracyclines. A single generic tetracycline hydrochloride should be available. Doxycycline is considerably more expensive than plain tetracycline, but because it is the only preparation useful in renal insufficiency and because of other minor spectrum advantages, it should also be made available. Minocycline offers no advantages in most situations (exceptions being meningococcal prophylaxis and nocardia activity) and need not be stocked as a regular item. Demeclocycline should be available, not because of its antibiotic properties but because it is used in the treatment of the syndrome of inappropriate ADH secretion.

Parenteral Tetracyclines. Although generic tetracycline is less expensive, doxycycline's ease of use in renal insufficiency and once-daily dosing make it a reasonable single choice.

Lincosamides (Table 3)

Clindamycin should be available in both the parenteral and oral forms. Lincomycin is obsolete and has no place on the formulary.

Vancomycins (Table 4)

Vancomycin hydrochloride for intravenous use must be available for the treatment of serious gram-positive infections. This drug is generally not absorbed when administered orally, and the oral preparation of the drug is used only in the treatment of antibiotic-associated colitis and in some bowel sterilization regimens. Both forms of the drug should be on the formulary.

Table 6. Urinary Antiseptics and Antibiotics

Drug to Retain	Route	Dosage Form	Drugs to Eliminate
Trimethoprim	PO	100 mg tab	
Trimethoprim/ sulfamethoxazole	PO	A suspension 800/160 mg 400/80 mg	Other sulfonamides
Trimethoprim/ sulfamethoxazole	Parenteral	400/80 mg	Other sulfonamides
Nitrofurantoin macrocrystals	PO	50, 100 mg tabs	Nalidixic acid*
Methenamine mandelate	PO	500 mg tabs	Methenamine hippurate
(Nalidixic acid*)			

*See text.

Chloramphenicol (Table 4)

Chloramphenicol base is well absorbed when administered orally, and this represents the rare situation where oral administration actually achieves higher serum levels of active drug than intravenous administration at the same dosage. Chloramphenicol sodium succinate is the parenteral preparation and is biologically inactive, requiring conversion to an active form by serum and hepatic enzymes. Consequently, the parenteral form of the drug should not be used for irrigation, peritoneal instillation, etc. Both forms of the drug, as well as a suspension for pediatric use, should be on the formulary.

Metronidazole (Table 4)

Metronidazole should be available in both the oral and parenteral forms.

Polymyxins (Table 4)

The polymyxins are seldom used parenterally because of their high incidence of toxicity. They are, however, the most predictably active drugs against multidrug-resistant pseudomonads, and one of these drugs should be retained on the formulary for this purpose. Two drugs are currently available for parenteral use: sodium colistimethate (colistin) and polymyxin B. They have similar spectra and pharmacology and can be considered "therapeutic equivalent." Most microbiology laboratories test for colistin rather than polymyxin B susceptibility, and sodium colistimethate may be somewhat easier to dose. Colistin sulfate may be retained as a secondary drug for the treatment of shigellosis and enteritis due to E coli; however, since other drugs (such as trimethoprim/sulfamethoxazole) are also effective for these conditions, its inclusion is optional. Polymyxin B is popular as a topical agent (see following discussion).

Aminoglycosides (Table 5)

Unfortunately the antibacterial activities of the aminoglycosides differ just enough to prohibit their being considered therapeutic equivalents except when the susceptibility of the pathogenic organism is known. Gentamicin is the least expensive of all these agents (costing less than one cent per milligram), and it should be the most widely used agent for general prophylactic and therapeutic purposes. Its activity against pseudomonas, however, is inferior to that of tobramycin and amikacin, so at least one of these agents should also be available. The minor advantages of netilmicin do not justify its routine use. Parenteral kanamycin has no practical use at present and need not be included, although the oral form should be retained for bowel preparations, as should oral neomycin. Streptomycin should be stocked for treatment of tuberculosis, tularemia, brucellosis, and other unusual bacterial diseases for which it is the drug of choice.

Spectinomycin, an aminocyclitol rather than a true aminoglycoside, is useful in the treatment of penicillin-resistant gonococcal infections, but with the availability of the newer cephalosporins which are extremely active against these organisms, spectinomycin should be considered an optional rather than necessary drug.

Table 7. Systemic Antifungal Agents

Drug to Retain	Route	Dosage Form	Drugs to Eliminate
Nystatin	PO	Suspension	Nystatin tablets
Ketoconazole	PO	200 mg tabs	Griseofulvin
Flucytosine	PO	500 mg caps	
Miconazole	Parenteral	200 mg	
Amphotericin B	Parenteral	50 mg	

Sulfonamides (Table 6)

Sulfonamides are extremely inexpensive agents. However, because of their decreasing overall use some hospitals have elected to stock only the fixed combination of trimithoprim/sulfamethoxazole. Both the oral and parenteral forms of this drug should be available.

Urinary Antiseptics (Table 6)

These drugs are difficult to restrict because many physicians have their favorites for use in urinary antisepsis, even though many of these agents offer few advantages over conventional antibiotics. Those agents that may have some reasonable place on the formulary are nitrofurantoin, trimethoprim, and one of the methenamine preparations. Nalidixic acid is of minimal importance as a urinary antiseptic, but since it is useful as an alternate drug for the treatment of enteric shigella infections, it may need to be kept on the formulary. Some of the newer quinolone drugs (eg, ciprofloxacin) that may be available soon might have some advantages, particularly because of their high activity against pseudomonas; they may need to be included when they become available.

Systemic Antifungal Agents (Table 7)

Invasive fungal infections are being recognized more frequently in hospitalized patients, and it is important that the hospital have certain systemic antifungal agents available. Amphotericin B, ketoconazole, miconazole, and flucytosine should be included. Oral nystatin preparations, though considered topical agents, are desirable since they are not appreciably absorbed in the gastrointestinal tract.

Other Agents

Topical antibacterial and antifungal agents have not been considered here. They are quite variable in their classifications, ranging from true antibiotics to various acetic acid or hypochlorite solutions. The pharmacist should determine which of these agents to stock based on the usage patterns in the hospital. Antiparasitic agents are minimal use items and likewise have not been presented here. Most of these agents should be available on a special request basis.

Conclusion

These are the minimum drugs that should be stocked by the pharmacy, and many hospital staffs may wish to expand their lists to fill special needs. Generic drugs should be used whenever possible since there is little information suggesting that any brand name antibiotic is superior to its generic equivalent.

The limiting of antibiotics on the hospital formulary is a logical step, but difficult. Once the word gets out, the director of the pharmacy is likely to be besieged with calls from many different pharmaceutical representatives afraid that their drugs will be eliminated. This is an uncomfortable situation for the director, but it can work to the hospital's advantage in the stimulation of competitive bidding on the agents that are up for consideration.

Education of the medical staff on the proposed limitations is important in order to make the transition smooth and relatively painless, and it should be stressed that this process is actually doing the medical staff a favor. With proper support from the administration and the medical staff, such a transition can accomplish its main goal: reduction of health care costs for the patient without reducing safety or effectiveness. □

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Estimated Physician Manpower Requirements for Oklahoma in 1990

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The following paper was presented in part to the Oklahoma State Board of Regents for Higher Education Health Manpower Advisory Committee on February 28, 1985.

In April of 1971, the "Study of Oklahoma Needs in Selected Health Manpower Fields," published by the Oklahoma Regents for Higher Education, concluded that Oklahoma would require an additional 870 physicians to bring the physician-to-population ratio from 102/100,000 to a national average of 132/100,000.[1] The Regents for Higher Education sponsored an increased class size at the University of Oklahoma Health Sciences Center, established the Tulsa Medical College, and established the Oklahoma College of Osteopathic Medicine and Surgery. The Physician Manpower Training Commission enabled increased residency positions in the primary care fields. The increased number of medical and osteopathic graduates and the equal number of residency positions enabled Oklahoma to reach the 135 physicians per 100,000 population goal by 1980.[2]

In 1980, the report "Status of Medical Education in Oklahoma," published by the Oklahoma Regents for Higher Education, called for a periodic reevaluation of Oklahoma's physician manpower needs and supply.[3] Likewise, the Tulsa County Medical Society report "Medical Education in Tulsa County," in November of 1981, and the Physician Manpower Training Commission report in May of 1981 recommended a reevaluation of physician education and manpower needs in 1986.[4] The Oklahoma Regents for Higher Education appointed an Advisory Committee on Physician Manpower in 1984 to study the current and projected needs for new physicians.

This report updates previous publications on physician manpower[2,5,6,7,8] in Oklahoma and documents the number of physicians in each specialty and their location in the state. It documents the number of graduates from the state medical education programs and will attempt to answer the question: how many and which physician specialties will be needed or oversupplied in Oklahoma by the year 1990?

Background

The national projections for physician needs began in 1959 when the Bane Report recommended that twenty new medical schools be added to the ninety-one then existing schools and that the graduating class be increased from 8,500 to 11,000.[9] In 1970 the Carnegie Commission on Higher Education published "Higher Education and the Nation's Health," which suggested that nine additional medical schools be formed and that the class size be increased by 50%.[10] The supply of new US physicians and foreign medical graduates (FMGs) increased to meet the needs. In 1976 the second

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Table 1. Variability of Number of Physicians Per 100,000 Population

Location	1960	1965	1970	1980	1982	Rank	1990	Ref
Belgium	127	—	155	236	—	—	333	(13)
W. Germany	149	—	163	226	—	—	326	(13)
Netherlands	110	—	121	190	—	—	—	(13)
United Kingdom	115	—	126	162	—	—	171	(13)
United States	**134**	**—**	**152**	**191**	**—**	**—**	**215**	**(14)**
Massachusetts	—	193	207	285	306	1	—	(15)
Maryland	—	163	183	281	300	2	—	(15)
New York	—	218	236	280	300	3	—	(15)
Connecticut	—	178	192	264	280	4	—	(15)
California	—	178	194	248	258	5	—	(15)
Colorado	—	168	178	210	210	14	—	(15)
Missouri	—	124	129	170	181	22	—	(15)
New Mexico	—	90	113	166	174	26	—	(15)
Kansas	—	112	118	166	173	28	—	(15)
Texas	—	110	117	159	164	32	—	(15
Arkansas	—	90	92	128	140	43	—	(15)
Oklahoma	**—**	**100**	**103**	**134**	**138**	**45**	**169**	**(15)**
Alaska	—	65	74	134	134	46	—	(15)
South Dakota	—	78	81	118	131	47	—	(15)
Wyoming	—	92	101	120	130	48	—	(15)
Idaho	—	90	94	116	124	49	—	(15)
Mississipi	—	77	84	112	120	50	—	(15)

Carnegie Commission report, "Progress and Problems in Medical and Dental Education," suggested that the influx of foreign medical graduates increased rapidly enough to meet manpower goals and that no new US medical schools were needed. The United States medical and osteopathic school graduating class of 1976 was 15,300.[11] In 1980 the Graduate Medical Education National Advisory Committee (GMENAC) report charted a US physician graduating class size of 18,300, with 17,200 MD graduates and 1,100 DO graduates.[12] The report predicted that if the rate of FMGs entering practice in the US and the rate of graduation of new US physicians continued, the United States would have an oversupply of 70,000 physicians by 1990.

Over the same twenty-five years, interested citizens of Oklahoma have been tracking the needs and supply of physicians for the state. In 1969 Kelly West recorded that the University of Oklahoma graduated an average of ninety-one students per year. However, many left the state for internships and residencies since there were only sixty-eight first-year residency positions in the state.[5] Several commissions and independent investigators have presented evidence supporting the graduation of greater numbers of Oklahoma physicians.

The GMENAC study provided the most comprehensive approach to determining physician needs.[12] The quantitative estimate of physician need was formulated on the basis of professional judgment about the volume of physician care and the time per unit of care needed to prevent, diagnose, and treat the diseases prevalent in a given population. The estimate is based on the need of persons who seek care as well as the need of those who do not seek care. After three years of comprehensive study of the literature and intense collaboration with health professionals, GMENAC developed a quantitative needs analysis of the number of physicians for a population and determined the number of specialists required to effectively deliver the health care services.

GMENAC suggested that a target physician-to-population ratio might be 191/100,000.[12] Currently and historically, there exists a huge variation in the physician-to-population ratios. Table 1 depicts the ratios for several locations at various times. In high-density population areas, a ratio approaching 300/100,000 appears to create problems of oversupply of physicians.[13]

In Oklahoma the number of physicians per 100,000 population in 1970 was 102; in 1980 it was 140, and in 1984 it was 152.[6,7]

Methods

The physician-to-population ratio for each of the specialties surveyed in the GMENAC report was calculated for the estimated 1990 US population published in the GMENAC report.[12] The ratio was applied to the estimated 1984 and 1990 Oklahoma population, to the population of the previously reported twenty-two hospital service districts,[7,16] and to the population of each county. The calculations thus provided an estimated 1984 Oklahoma need for physicians in each

of the thirty-nine specialties, in each of the twenty-two hospital service districts, and for each county. An estimate of the physician need for 1990 was made for the state.

From projections provided by the Oklahoma Department of Economic and Community Affairs,[17] the 1990 Oklahoma population estimates were calculated at a population growth rate of 18% over ten years. Estimates of the 1984 population were provided by the US census bureau.[18]

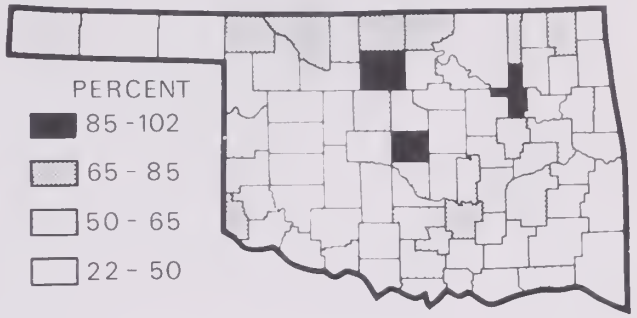
The total number of practicing MD physicians in 1984 was provided by the Oklahoma State Board of Medical Examiners. The Oklahoma Osteopathic Association provided the total number of practicing DO physicians. The number of resident physicians was provided by the University of Oklahoma College of Medicine, the University of Oklahoma Health Sciences Center, the University of Oklahoma Tulsa Medical College, the Physician Placement Office of the Oklahoma College of Osteopathic Medicine and Surgery, and the Oklahoma Osteopathic Association. All physicians in practice, full-time faculty, researchers, administrators, and residents in Oklahoma are included in the numbers. The yearly physician output is the number of physicians finishing their final year of graduate medical education. In some instances, only one year of graduate medical education is completed; in other cases as many as seven years are required by the specialty.

The attrition rate for physicians was calculated from the Oklahoma State Board of Medical Examiners and the Oklahoma Osteopathic Association data by subtracting the number of physicians who left the state, retired, or died each year and expressing the difference as a percentage of the total physicians licensed in the state at the beginning of the year. An average was obtained over the years 1972 to 1982 for MDs and from 1980 to 1984 for DOs. The lowest average attrition rate of 1.6% was used in this paper.

Physician migration was estimated as the difference between the total number of physicians not in residency who are licensed each year minus the MD and DO residents completing training that year. Since the immigration of physicians has been greatest in the past five years, the highest immigration numbers from 1980 to 1984 were used.

The 1990 estimated physician supply was determined by adding the total six-year MD and DO production to the 1984 MD and DO total, subtracting the six-year attrition rate, and adding the six-year physician migration rate. To this total was added the number of residents multiplied by 35%. The adjusted total assumes a resident provides 35% of the services of a practicing physician. The 1990 Oklahoma physician need per specialty was determined by multiplying the GMENAC physician-to-population ratio by the projected Oklahoma population for 1990. The difference between the 1990 estimated Oklahoma physician supply and the 1990 Oklahoma physician need represents the surplus or deficit number.

1984 SUPPLY OF OKLAHOMA PHYSICIANS COMPARED TO GMENAC RECOMMENDED NEEDS



The division of specialties into primary, secondary, and tertiary care is based on the population served per specialty. The primary care specialties are defined by the Physician Manpower Training Commission legislation. In this paper, family practice physicians are defined as physicians with three years training in a family practice residency program or who were "grandfathered" into the specialty. Osteopathic general practice physicians are defined as physicians who have had one year of internship before entering general practice.

The physician deficit or surplus for each hospital service district and for each county was calculated by multiplying the GMENAC specialty ratio by the number of physicians per 100,000 population in the geographic location. Since the population density of many counties in the state is low, and most of the tertiary care and resident training occurs in the two large population centers, an adjusted physician/population ratio was calculated for each county. The primary care needs for each county were assumed to be provided in the county. Fifty percent of the secondary care needs were attributed to the county and 50% to the county possessing the hospital service district's major hospital. Twenty-five percent of the tertiary care for each county in a hospital service district was attributed to the county housing the major hospital. Tulsa and Oklahoma counties were attributed 75% of the tertiary care physician needs of the counties served by each city. A county providing mainly primary care has a GMENAC ratio of 129 physicians per 100,000 population. The hospital service districts contain from one to ten counties, and each has a ratio of 177 physicians per 100,000 population. Because of differences in population served and in the popula-

Table 2. 1990 Estimated Physician Manpower Requirements and Supply for the State of Oklahoma Prepared for the Oklahoma State Regents for Higher Education, Health Manpower Advisory Committee, Feb. 28, 1985. (Revised April 15, 1985) By F. Daniel Duffy, MD; C.S. Lewis, Jr., MD; Deborah A. Miller, MS

1	2	3A	3B	4	5	6	7	8	9	10	11		12	13
Specialty	1990 US GMENAC Req 243,513,000	GMENAC Recommended Physicians/ 100000 pop	% of Phys	1990 Okla Phys Needs 3569842	1984 MD & DO Total Practice 3297900	Yearly Avg MD GME Grads	Total 6-Yr MD GME Produc	Yearly Avg DO GME Grads	Intal 6-Yr DO GME Produc	Lost to Practice 6-Yr 1.6%/Yr Attrition	Phys. Migration Into Okla MD	DO	1990 Est Okla Phys Supply	1990 Okla Phys Surplus/ Deficit
Family Practice	61300	25.17	13.18%	899	793	28	166	0	0	-92			867	-32
Osteopathic GP	22750	9.34	4.89%	334	501	0	0	41	246	-72			675	342
Internal Medicine	70250	28.85	15.10%	1030	487	19	112	5	30	-60			569	-461
Pediatrics	30250	12.42	6.50%	443	264	21	125	1	6	-38			357	-86
OB/Gyn	24000	9.86	5.16%	352	257	7	40	1	6	-29			274	-78
Primary Care Totals	**208550**	**85.64**	**44.84%**	**3057**	**2302**	**74**	**443**	**48**	**288**	**-291**	**0**	**0**	**2742**	**-315**
Anesthesiology	21000	8.62	4.52%	308	177	7	44	2	12	-22			211	-97
Cardiology	7750	3.18	1.67%	114	59	4	22	0	0	-8			73	-40
Child Psychiatry	9000	3.70	1.94%	132	10	2	9	0	0	-2			17	-115
Dermatology	6950	2.85	1.49%	102	49	2	12	0	0	-6			55	-47
Emergency Medicine	13500	5.54	2.90%	198	142	4	26	0	0	-16			152	-46
General Surgery	23500	9.65	5.05%	345	286	6	36	2	12	-32			302	-43
Hematology/Oncology	9000	3.70	1.94%	132	36	2	10	0	0	-4			42	-90
Preventive Med	7300	3.00	1.57%	107	54	0	0	0	0	-5			49	-58
Ophthalmology	11600	4.76	2.49%	170	132	3	16	1	6	-15			139	-31
Orthopedic Surg	15100	6.20	3.25%	221	153	4	24	1	6	-18			165	-56
Otorlaryngology	8000	3.29	1.72%	117	61	0	2	1	6	-7			62	-55
Pathology	13500	5.54	2.90%	198	112	1	4	1	6	-12			110	-88
Psychiatry	38500	15.81	8.28%	564	197	5	27	0	0	-22			202	-362
Radiology	18000	7.39	3.87%	264	215	6	35	2	12	-25			236	-27
Urology	7700	3.16	1.66%	113	83	3	16	1	6	-10			95	-18
Secondary Care Totals	**210400**	**86.40**	**45.24%**	**3084**	**1766**	**47**	**283**	**11**	**66**	**-203**	**441**	**75**	**2428**	**-657**
Allergy	2050	0.84	0.44%	30	23	0	0	0	0	-2			21	-9
Endocrinology	2050	0.84	0.44%	30	16	1	6	0	0	-2			20	-10
Gastroenterology	6500	2.67	1.40%	95	46	2	14	0	0	-6			54	-41
Infectious Diseases	2250	0.92	0.48%	33	9	0	2	0	0	-1			10	-23
Neonatology	1300	0.53	0.28%	19	12	2	12	0	0	-2			22	3
Nephrology	2750	1.13	0.59%	40	17	2	10	0	0	-3			24	-16
Neurology	5500	2.26	1.18%	81	43	2	12	0	0	-5			50	-31
Neurosurgery	2650	1.09	0.57%	39	34	1	8	0	0	-4			38	-1
Nuclear Medicine	4000	1.64	0.86%	59	4	0	2	0	0	-1			5	-54
Pediatric Allergy	900	0.37	0.19%	13	2	0	0	0	0	0			2	-11
Pediatric Cardiol	1150	0.47	0.25%	17	6	0	0	0	0	1			5	-11
Pediatric Endocrin	800	0.33	0.17%	12	1	1	6	0	0	-1			6	-5
Pediatric Hem Onc	1650	0.68	0.35%	24	5	0	1	0	0	-1			5	-19
Pediatric Neph	350	0.14	0.08%	5	2	0	0	0	0	0			2	-3
Physical Med Rehab	3200	1.31	0.69%	47	9	0	0	0	0	-1			8	-39
Plastic Surgery	2700	1.11	0.58%	40	30	1	6	0	0	-3			33	-7
Pulmonary	3600	1.48	0.77%	53	28	3	18	0	0	-4			42	-11
Rheumatology	1700	0.70	0.37%	25	21	0	0	0	0	-2			19	-6
Thoracic Surgery	2050	0.84	0.44%	30	35	1	6	2	12	-5			48	18
Tertiary Care Totals	**47150**	**19.36**	**10.14%**	**691**	**343**	**17**	**103**	**2**	**12**	**-44**	**93**	**15**	**522**	**-170**
Other*					39	11	66	0	0	-10			95	95
Total Practitioners					4450	149	894	61	366	-548	534	90	5786	-1047
Total Residents					550								550	
Licensed Phys					5000								6336	
Resident (.35 FTE)**					193								193	193
Adjusted Total	**466100**	**191**	**100%**	**6833**	**4643**								**5978**	**-855**
Licensed/100000					152								177	
Adj Practice/100000	191			191	141								167	

1 The specialties surveyed by the Graduate Medical Education National Advisory Committee
2 The number of physicians required in each specialty to meet the needs for the entire United States in 1990
3 A. The number of physicians in each specialty per 100,000 population, B. The percent of all physicians in the specialty
4 1990 estimated Oklahoma population calculated from unpublished 1984 US Census Bureau data, based on a growth rate of 18% per 10 years.
5 MD data provided by the Oklahoma State Board of Medical Examiners, 1984 DO data provided by the Oklahoma Osteopathic Association.
6. & 7 Graduates of OU residency programs provided by the University of Oklahoma College of Medicine, Dean's office
8 & 9 DO graduate data provided by the Oklahoma College of Osteopathic Medicine and Surgery Physician Placement Office and the Oklahoma Osteopathic Association
10 Estimates are calculated for MD physicians using data provided by the Oklahoma State Board of Medical Examiners.
10 Estimates are calculated for DO physicians using data provided by the Oklahoma Osteopathic Association 1980-1985
11 Includes US MD and DO graduates from other states, US FMGs, and alien FMGs
11 Estimates are calculated from data provided by the Oklahoma State Board of Medical Examiners and the Oklahoma Osteopathic Association.
12 The sum of columns 5, 7, 9, 10, and 11.
13 The difference between columns 4 and 12
* Other includes full-time administrators, researchers, and physicians doing locum tenens or part-time ER work
** In 1984 there were 550 GME physicians (residents). GMENAC counted a resident as providing 35% of the services of a practicing physician.
NOTE Numbers may not add up exactly due to rounding.

tion density of Oklahoma counties, the counties housing the hospital service district's major hospital may have a target ratio ranging from 177 to 213 physicians per 100,000 population. In Oklahoma and Tulsa counties, the counties providing the state's tertiary care, the ratios were 230/100,000 and 249/100,000, respectively.

Results

As shown in Table 2, there were 4,450 practicing physicians (3,752 MDs and 698 DOs) in 1984. This compares to the total of 5,000 physicians that was published in 1984 by the Oklahoma Health Planning Commission and which includes 550 residents in training.[19]

Of the 4,450 total practicing physicians, 2,302 were practicing primary care specialties, 1,766 secondary care specialties, and 343 tertiary care specialties. Thirty-nine physicians fell into the category of full-time administrators, researchers, and physicians doing locum tenens or part-time ER work. This number is grouped under the heading "Other."

There were 74 MDs and 48 DOs being graduated in the primary care specialties annually. It should be noted that 41 of the 48 DOs were in one-year internship only, whereas all 74 of the MDs had completed three- or four-year residency programs. Annually, 47 MDs and 11 DOs finish residency training in the secondary specialties. Seventeen MDs and two DOs are graduated from tertiary care specialties annually. The 11 MDs listed as "Other" represent physicians who finished one-year training and are performing locum tenens or emergency room work. A total of 149 MDs and 61 DOs, or 211 physicians, finish graduate medical education training in Oklahoma each year. This compares with 176 first-year MD medical students and 80 first-year DO students, or 256 students who enter school each year.

The 1.6% per year attrition indicates a loss of 548 physicians over a six-year period, or approximately 91 per year. The net immigration of physicians trained elsewhere is projected to be 89 MDs and 15 DOs per year.

The estimated supply of primary care physicians in 1990 is 2,742, which represents a 19% increase over the 1984 figure of 2,302. Immigration of physicians into the primary care fields is not expected to exceed the number of state program graduates. The 1990 supply of primary care physicians in Oklahoma will be 315 less than recommended needs. The projected number of secondary care physicians in 1990 is 2,428, an increase of 37% compared to the 1984 total of 1,766. Immigration of physicians into specialty fields is expected to be 441 MDs and 75 DOs. This is 657 fewer than the 1990 projected need. Tertiary care specialty practitioners will number 522 physicians. This is a 52% increase over the 343 in 1984, and is 170 fewer than the GMENAC projected need of 691.

The counties shown in the figure indicate the percentage of 1984 physician needs that have been met. Only one county has an oversupply, and that is Oklahoma County with 2% more physicians than necessary. As of 1984 Tulsa, Oklahoma, and Garfield counties each had at least 85% of adjusted needs met. Most of the less densely populated counties had from 22% to 50% of adjusted needs met.

Discussion

Problems with the Study. Any study attempting to predict the future relies on current assumptions about unknowns. Five areas of particular concern in this study are the changing pattern of health services delivery, the impact of Oral Roberts University medical graduates, the physician attrition rate, the population growth estimates, and physician immigration into Oklahoma.

Over the past three years Oklahoma has experienced the impact of changes in reimbursement for medical services. The prospective payment systems implemented by Medicare DRG-based hospital payment, and the HMO and PPO prearranged physician reimbursement schedules have altered the utilization of hospital and outpatient services. HMOs historically have staffed a physicians/population ratio of less than 191/100,000.[20] However, historically, HMOs have selected low risk patients and have purchased from others the high cost specialty services. Therefore the HMO approach to physician staffing may represent an erroneously low physician need. Although newer methods of reimbursement may alter the location of service, it does not alter the GMENAC estimates of disease-based service needs. Recent evidence suggests that when services utilized for a specific disease are compared, little difference exists between an HMO and the private sector in services delivered, especially for hospital and high technology services.[21]

Graduates from Oral Roberts University were not included in this study. There is no experience at this time to indicate the number of graduates from ORU residencies who will remain in Oklahoma. Currently fifty students are graduated yearly. Since 11% of the student body are Oklahomans, approximately five physicians per year might be expected to remain in Oklahoma. This will have little impact on physician manpower. Oral Roberts University faculty and physicians in residency training have raised the ratio of

Table 3. Number and Percentage Distribution of MD and DO Physicians in Oklahoma by Selected Year

Year	MD	DO
1973	2,365 (85%)	436 (15%)
1984	3,752 (84%)	697 (16%)
1990	4,681 (81%)	1,103 (19%)

Table 4. Percentage Distribution of Physicians by Specialty as Recommended by GMENAC Compared to the Percentage Distribution of Final Year Residency Positions in Oklahoma in 1984

Specialty	Recommended % of Physicians	Actual % of Final Year Residents
Primary Care		
Family Practice	13.2	13.0
Osteopathic GP	4.9	19.0
Internal Medicine	15.1	11.0
Pediatrics	6.5	10.0
Ob/Gyn	5.2	4.0
Secondary Care		
Anesthesiology	4.5	4.3
Cardiology	1.7	1.9
Child Psychiatry	1.9	1.0
Dermatology	1.5	1.0
Emergency Medicine	2.9	1.9
General Surgery	5.0	3.8
Hematology/Oncology	1.9	1.0
Preventive Medicine	1.5	0
Ophthalmology	2.5	1.9
Orthopedics	3.3	2.4
Otorhinolaryngology	1.7	.6
Pathology	2.9	.8
Psychiatry	8.3	2.3
Radiology	3.9	3.8
Urology	1.7	1.9
Tertiary Care		
Allergy	.4	0
Endocrinology	.4	.5
Gastroenterology	1.4	1.0
Infectious Disease	.5	.2
Neonatology	.3	1.0
Nephrology	.6	1.0
Neurology	1.2	1.0
Neurosurgery	.6	.6
Nuclear Medicine	.9	.2
Pediatric Allergy	.2	0
Pediatric Cardiology	.2	0
Pediatric Endocrinology	.2	.5
Pediatric Oncology	.4	.1
Pediatric Nephrology	.1	0
Physical Medicine	.6	0
Plastic Surgery	.6	.5
Pulmonary	.8	1.4
Rheumatology	.4	0
Thoracic Surgery	.4	1.4
	100.0	100.0

physicians to population in Tulsa County. Because of the international referral characteristics of the City of Faith, the population served by ORU physicians comes from a broader area than the Tulsa service area.

The physician attrition rate is a particularly tenuous estimate. GMENAC used a figure of 2% per year[12] and in 1969 Kelly West estimated 2.55% per year[5] for Oklahoma. If the average practice life of a physician were thirty-five years, the attrition rate from retirement alone would be 2.9% per year. Considering the projected increase of women in medicine and their decreased productivity,[22] and the move of more physicians into administration, the attrition rate of 1.6% seems very modest.

Population figures are always difficult to project. Figures in the past year have shown a slowdown in the rapid growth rate Oklahoma experienced during the previous ten years. The most recent Department of Economic and Community Affairs projection for Oklahoma in 1990 used the 1984 US Census Bureau projection of 3,950,000.[15] We used a conservative population estimate of 3,569,842, which was based on an 18% per ten-year growth rate starting with the US Census Bureau's 1980 Oklahoma population of 3,025,290.[18]

Oklahoma's rank of 45th[23] in the ratio of physician supply per population dramatically publicizes its need for physicians. Active recruiting by hospitals for specialties, universities for faculties, practitioners for partners, and communities for physicians of all types has been a major factor in promoting immigration. More physicians than the number graduated from Oklahoma training programs enter practice each year. As needs are met and recruiting slows, the immigration will probably slow. As a result, the needs of rural Oklahoma will continue to be filled primarily by graduates of the Oklahoma College of Osteopathic Medicine and Surgery and the University of Oklahoma, and by foreign medical graduates.

Projection in Changes of Physician Mix. Table 2 indicates that there will be more one-year trained physicians by 1990 and fewer three-year trained primary care physicians than the GMENAC study suggests are needed. This raises a question of the relative clinical competence of one-year versus three-year-trained physicians. It is our opinion that a physician with three years' postgraduate training is better prepared for primary care delivery than one who has only one year of training. We believe that all primary care physicians should have three years of approved residency training. This raises a serious policy question that will have to be answered by the decision makers regarding postgraduate training programs in the state of Oklahoma.[20]

Table 5. Residency Programs Training More Specialists Than Recommended

Specialty	% GMENAC Recommendation
Osteopathic GP	387%
Thoracic Surgery	350%
Neonatology	333%
Pediatric Endocrine	250%
Pulmonary	175%
Nephrology	166%
Pediatrics	154%

Table 6. Residency Programs Training Fewer Specialists Than Recommended

Specialty	% GMENAC Recommendation
Pediatric Specialties	0%
Physical Medicine	0%
Rheumatology	0%
Preventive Medicine	0%
Nuclear Medicine	22%
Pathology	28%
Psychiatry (Adult/Child)	28%
Otorhinolaryngology	35%
Infectious Disease	40%
Hematology/Oncology	53%
Emergency Medicine	65%
Gastroenterology	71%
Internal Medicine	73%
Orthopedics	73%

Table 3 shows that the 1973 distribution of 85% MDs and 15% DOs will probably change by 1990 to 81% MDs and 19% DOs if the current training program size is maintained.

Foreign medical graduates are divided into two categories. The first is United States citizens who go out of the country to medical school and come back to the United States for postgraduate training (USFMG). The second category is made up of alien physicians graduated from foreign medical schools who come to the United States for residency training and stay for practice. The percentage of each group failing the Educational Commission for Foreign Medical Graduates (ECFMG) test has been significantly high.[24] There have not been enough places in the recent past for postgraduate training for all of the foreign medical graduates who have entered the US and requested training.[25] In Oklahoma from 1975 to 1982, there was a 30% reduction in the number of foreign medical graduates in residency training. During the same period, however, the number of FMGs in practice has risen from 68 to 277, which represents a 407% increase.[23] It is our opinion that this represents another serious policy question to be addressed by those in charge of training and licensing procedures in Oklahoma.

With the current assumptions, Oklahoma will have 167 physicians per 100,000 population. Regardless of the accuracy of 191 physicians per 100,000 population as a target, 167/100,000 may be adequate for Oklahoma. The state will need physicians distributed among the specialties in percentages similar to the distributions in the GMENAC report, as shown in Table 2, Column 3B. For example, the state needs 4.5% of its physicians to be anesthesiologists.

By 1995, at the current rate of growth, Oklahoma should meet the GMENAC ratio of 191 physicians per 100,000 population. To maintain an adequate supply, Oklahoma will need about 7,000 physicians. The yearly attrition will be 113 physicians. The current population growth rate of Oklahoma will require an additional 86 physicians per year. The attrition plus new population needs equals 199 new physicians per year. The current medical education programs in Oklahoma produce 213 residency graduates per year. This represents 7% more than will be needed for a steady state physician supply in 1995.

Currently, there are 256 entering medical students and, approximately seven years later, 213 graduating residents. To effect a reduction from 213 to the 1995 need of 199 finishing residents, the total number of residency slots should be reduced 7% in 1992. Since there is a 17% difference in the size of the freshman medical school class and the size of the finishing resident pool, a reduction in first-year medical students of 8% in 1988 should achieve the desired balance. These reductions might be offset by an increase in immigration.

Table 4 compares the 1984 specialty distribution of finishing residency slots in Oklahoma with the GMENAC target distribution. Table 5 lists those residency programs now training more physicians than recommended by GMENAC. Table 6 lists the residency programs training fewer specialists than recommended.

Conclusions

1. Oklahoma will have 167 physicians per 100,000 population in 1990.
2. It will take an additional 855 physicians to reach a ratio of 191 physicians per 100,000 population by 1990. At current supply and growth rates Oklahoma should achieve a ratio of 191 physicians per 100,000 populations by 1995.
3. The disciplines needed by (GMENAC) category and by geographic area are presented.
4. FMGs represent an increasing number of physicians in practice in Oklahoma.

5. The percentage of DOs in Oklahoma's physician population will increase from 1973's 15% to 19% in 1990.
6. The largest deficiencies in 1990 will be in internal medicine (-461) and psychiatry (-362).
7. The specialty with the largest surplus will be one-year-trained osteopathic general practice (+342).
8. Primary care physician needs, in the aggregate, will be 90% met in 1990. There will be a deficiency of three-year-trained internal medicine physicians, three-year-trained pediatric physicians, and four-year-trained Ob/Gyn physicians.
9. Secondary care physician needs, in the aggregate, will be 79% met in 1990.
10. Tertiary care physician needs, in the aggregate, will be 75% met in 1990.
11. Current residency training positions will produce an excess of physicians in osteopathic general practice, neonatology, thoracic surgery, pulmonary diseases, pediatric endocrinology, pediatrics, and nephrology.
12. There is a deficiency of residency positions in psychiatry, child psychiatry, pathology, hematology/oncology, infectious disease, pediatric oncology, gastroenterology, nuclear medicine, emergency medicine, dermatology, preventive medicine, pediatric allergy, pediatric cardiology, pediatric nephrology, physical medicine and rehabilitation, rheumatology, and internal medicine.

Recommendations

▶ The Oklahoma State Regents for Higher Education and other interested groups should continue to monitor physician manpower.

▶ Residency positions should be reduced 7% in 1992, and the number of first year MD and DO students at the University of Oklahoma and the Oklahoma College of Osteopathic Medicine and Surgery should be reduced 8% in 1988.

▶ All MD and DO graduates should be encouraged to take at least three years of residency training in approved programs.

▶ Residency positions should be reallocated to better fit the GMENAC ideal distribution of physician specialties.

▶ The appropriate groups should seriously review policies which will assure the state that incoming foreign medical graduates are equal in caliber to US medical graduates. □

We acknowledge the assistance of the Physician Manpower Training Commission, Oklahoma State Medical Association, Oklahoma State Osteopathic Association, Dean's Office at the University of Oklahoma Health Sciences Center, Physician Placement Office at the University of Oklahoma Health Sciences Center, Tulsa Medical College, Oklahoma College of Osteopathic Medicine and Surgery, State Board of Medical Examiners, and Department of Economic and Community Affairs. We are especially grateful to Carol Butler, Barbara McCoy, Mariann Duca, Virginia Huggard, and Darla Puckett for preparation of the manuscript.

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Physician Manpower Production Critique State of Oklahoma

Prepared by the Council on Medical Education of the Oklahoma State Medical Association

The following White Paper was developed by the Oklahoma State Medical Association Council on Medical Education as resource information for the Physician Manpower Advisory Committee to the Oklahoma Board of Regents for Higher Education. It was presented to the Advisory Committee on April 11, 1985.

It is the consensus of this Council that in establishing policy for physician manpower production in our state for the foreseeable future, several general principles need to be emphasized.

The **first principle** is that we cannot and must not consider Oklahoma as an isolated entity set apart from the national picture in physician manpower production and utilization.

The **second principle** is that our present methods for predicting physician supply, as well as the health care needs of a specific population, are very limited. Any method that has been used to date is open to some very reasonable criticisms. The GMENAC Report, which has been widely publicized and used extensively for predicting the physician manpower needs nationally and in Oklahoma, will be discussed in detail.

The **third principle** is that any policy affecting first-year medical school slots in this state that is adopted immediately will not affect the medical manpower pool in 1990, but 8 to 10 years from now. The wide swings of the production pendulum should be dampened so that we do not see correspondingly wide swings in production numbers at inappropriate times.

The **fourth principle** is that an honest attempt should be made to arrive at a reasonable output of physicians in our state that will best serve the population, recognizing that an oversupply, with its cost of production to the people of the state as well as the overutilization it could foster, would be just as detrimental as an undersupply of physician manpower.

With these general principles in mind, we think it is appropriate to review the history of physician manpower production nationally and then see how it may apply to our particular situation. The number of medical schools and the number of physicians produced by US medical schools was very stable during the 1940s and 1950s. The Baines Report to the Surgeon General in 1959 noted that the physician population ratio of 141 to 100,000 had been essentially unchanged over a 20-year period. Given the rate of health care utilization during that period, this appeared to be an adequate number. However, with government-generated increases in health services provision and utilization and with increasing population, it became obvious that there would soon be a significant reduction in the ability of the available physician pool to provide these services. The Baines Report suggested that medical school graduating classes be increased by 25% and that 20 to 24 new medical schools be established to generate this increase. Urgency was expressed in the following recommendation: "Unless the Federal Government makes emergency financial contribution on a matching basis toward the construction of medical facilities, the nation's physician supply will lag behind the needs created by increasing population."

Four years later, the Health Professional Education Systems Act of 1963 provided the construction funds suggested by the Baines Report, and public

policy opinion that there was a "doctor shortage" snowballed. In 1966, the President of the United States established the National Advisory Committee on Health Manpower, with the concept that federal funds in support of capital and operating costs of medical education should be provided to the medical schools, and that these funds should be provided in such a way as to create economic incentives for the schools to expand enrollment. The Health Manpower Act of 1968 provided loans and scholarships for these purposes. In 1970, the Carnegie Commission for Higher Education again expressed urgency and recommended a 50% increase in medical school enrollment.

Medical education responded to the broad social consensus in a totally predictable and expected way by increasing the number of medical schools from 85 to 127 over the period from 1960 to 1982. The first-year enrollment increased from 9,018 to 16,567, which almost doubled the number of first-year medical student slots from 1965 to 1982. During this same period, encouraged by changes in immigration regulations, there was a significant influx of foreign medical graduates, predominately non–US citizens, into the United States. During the 17-year period from 1965 to 1982, 25% to 30% of first-year residency training program slots were awarded to foreign medical graduates. In this environment, some concerned medical educators, and certainly many of us in medical practice, became concerned that two basic questions were not being asked — the first being, how many physicians are needed, and at what rate should they be produced. The second is how many students should be admitted to medical schools each year to address the nation's need in a reasonable and orderly fashion that would not create significant economic drain on the educational facilities and thus the general public, or produce more physicians than were really needed to supply the wants and needs of our society. Lest we shift all of the blame to government and society, it is of interest to recognize that the medical profession itself at this point in history expressed a sense of crisis and urgency as to the medical manpower problem.

GMENAC's conclusions must be accepted as approximations or gross estimates.

In the spring of 1968, joint statements released by the American Medical Association and the American Association of Medical Colleges stated: "The Board of Trustees of the American Medical Association and the Executive Council of the Association of American Medical Colleges emphasizes the urgent and critical need for more physicians if national expectations for health services are to be realized. As a nation, we should address the task of realizing this policy with a sense of great urgency." Thus the medical profession itself gave a clarion call for increased physician production. As you may know, there is an interval of approximately eight years between the entry into medical school of an aspiring physician and his entry into practice. Sharp increases in the medical school enrollment during the 1960s and early 1970s had only a modest effect on the practicing physician supply during that period. In the past three to four years, however, we have begun to hear the terms "physician glut" and "doctor surplus." We must ask ourselves if there is a reason for these concerns on the part of our profession. Some national statistics again will bear out the contention that we should modify the number of physicians we are now producing, but not react again to the cry of crisis to the point of limiting our production to pre–1970 levels. The number of physicians per 100,000 population has increased dramatically in recent years, reaching 212 per 100,000. In 1975 it was 169 per 100,000, and 195 per 100,000 in 1980. This is a 25% increase in the last 20 years. Also notable in this particular study is the number of graduates of foreign medical schools (including both foreign and US citizens who graduated from these schools and are practicing in the US), which grew 3.6% in a year's period. Since 1973, 1,399 foreign medical graduates have come to Oklahoma. These graduates have a significant impact upon the number of actively practicing physicians in our state.

Another disturbing trend is the perception that the quality of physicians produced by the rapidly expanded physician manpower production complex may be inferior to that which might have been produced by a more orderly and less dramatic expansion. The number of applicants applying to medical schools nationally has dropped drastically. In Oklahoma we have gone from 1,474 applicants in 1974 to 850 in 1985. The latest national statistics show that the ratios of applicants to first-year slots are approximately 2 to 1. Ten years ago this ratio was 2.8 to 1, indicating that the Admissions Committees' choice of applicants is truly dwindling. The other disturbing statistic is that the pre-medical grade point average of entering first-year students has decreased progressively over the years from 1979 through the last reported statistics of 1983. The percentage of first-year students having an "A" average (that is a grade point

average of 3.6 to 4.0) was 49.2% in 1979, 47.5% in 1980, 45.8% in 1983, 46.4% in 1982, and down to 44.7% in 1983.

Let us now look at the Council's critique of the paper presented to the Health Manpower Advisory Committee on February 28. We have some very real concerns about the basic premises on which this study's conclusions are based. The first would be the sole use of the GMENAC Report to establish the optimal number of physicians per unit population in our state. We have carefully studied the critique of the GMENAC Report by the American College of Physicians, the American College of Surgeons, the American Society of Internal Medicine, the National Advisory Council for Health Professions Education, the American Medical Association, and the Association of Professors of Medicine. There is a common theme running through all of these critiques that we think needs to be emphasized. First, let us state that this is the first detailed specialty-by-specialty study of US physician manpower supply needs which has used a consistent methodology and which has considered variables influencing supply and demand. In this regard, it should be commended. However, there are specific criticisms of the GMENAC approach. The first is that however sophisticated its methodology, GMENAC's inquiry into physician manpower supply and requirements in 1990 is necessarily based on subjective judgments and on informed supposition. Therefore, GMENAC's conclusions must be accepted as approximations or gross estimates, which might be useful in general guidelines to manpower planning, rather than as authoritative, precise facts upon which planners could predicate major revisions in the mechanisms that will influence the supply of physicians, specialties, and subspecialties. Panelists were instructed to formulate their projections on the basis of what should occur in 1990 rather than on what will, might, or could occur. They were also told to assume that there would be no barriers (including financial or geographic) to health care in the 1990s. Considering the economic and political climate in the nation today, projections based upon such instructions may be entirely fallacious. Manpower needs will be dramatically affected by new medical discoveries, major political events, and new delivery systems. Therefore, predictions based upon the GMENAC Report could be regarded at best as estimates or trends, not specific facts mandating specific actions.

The Council recommends a 15% reduction in admissions to state-supported schools producing physicians.

It is the contention of this Council that the GMENAC recommendations for an ideal physician-to-population ratio of 182 physicians per 100,000 persons is an inflated figure in our present medical environment, for the nation as a whole, and certainly for the State of Oklahoma. However, even if it were assumed that 182 physicians per 100,000 population is the ideal level for the nation, it should be again noted that nationwide, this figure was exceeded by 20 physicians per 100,000 population at the end of 1983. The GMENAC Report itself predicted that there would be 70,000 excess physicians in the US by the year 1990 and 142,000 excess physicians by the year 2000. Based upon this estimate, their recommendation #3 from the Modeling Panel was that allopathic and osteopathic medical schools should reduce entering classroom size in the aggregate of a minimum of 10% by 1984 relative to the 1978-79 enrollment, or 17% relative to the 1980-81 entering class.

It should be emphasized that planning at the present time must not be based upon 1990 physician manpower needs, as these trainees have already been in the system for approximately three years now. We must target Oklahoma's needs for 1995 and 2000 at the present time. Based on the ideal physician population ratio established by GMENAC and using the tables established by the authors of a paper presented at an earlier date, Oklahoma could cut its first-year medical school slots by 10% next year and reach the goal of 185 physicians per 100,000 population by 1999. A 20% cut would reach this goal by 2007. However, we would again emphasize the potential fallacy and the techniques for arriving at this projected need.

Another area of intense concern to the Council is the present cost of physician manpower production. A comparison of national medical school expenditures in the school year 1958-59 to the school year 1982-83 indicates an increase from $319 million to $7 billion 65 million. It should be said, in all fairness, that these figures are not adjusted for inflation. In the present milieu of reported fiscal crisis in our institutes of higher education, we must ask questions that society, government planners, and the medical profession itself should ask: "Can society afford this?" We think the answer is becoming fairly obvious.

Also of concern are the gross statistics for projected population for the State of Oklahoma. We are in no position to question the statistics for projected population for the State of Oklahoma. We are in no position to question the statistics supplied by the Oklahoma Employment Security Commission's pro-

jections; however, one wonders if these projections were made at a time of economic expansion in our state, when there was an influx of population due to energy-related industrial activities. We are all aware that this influx has significantly decreased in the last two to three years, and our feeling is that the population statistics will warrant very close scrutiny as we attempt to continue to monitor health professional needs.

We think it would be very easy to call for immediate drastic cuts in medical school enrollment, which has been done in several states and even in our own state by certain individuals. We think this is ill-advised. We think that a concerted effort to carry out socioeconomic research is needed to answer the questions: "How many physicians are optimal for a given segment of society, and what should the specialty and primary specialty mix for our society be? What is the impact of foreign-trained US medical students? What should the licensing requirements be? What is the impact of female medical graduates, now numbering a third of the graduating class, on the physician manpower pool?" These are questions that beg for an answer. They must be answered prior to precipitously calling for a marked reduction in the production of physicians.

Several state legislatures and Boards of Regents for Higher Education have mandated significant reductions in first-year medical school classes. **The Oklahoma State Medical Association Council on Medical Education recommends a 15% reduction in admissions to state-supported schools producing physicians.** The health care system and medical practice must respond to the forces which call for a decrease in physician production, but maintain the quality of physicians that the American people have come to expect. Medical practice effectiveness should be studied, and an assessment should be made of the outcomes of innovations in medical practice modes. We should attempt to design our educational process to meet these needs, and the growth rate of physician supply should be restrained, but in a way that will preserve the quality of both physicians and the educational institutions which provide these physicians. It should be restrained only to the point of providing the best health care possible for our patients, the citizens of the State of Oklahoma, and to society as a whole. □

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Coming in July . . .

Among the manuscripts being considered for publication in July are a paper on continuous subcutaneous insulin infusion and an article suggesting ways to reduce the number of pharmacists' calls to physicians. Also in production at this time are the complete Proceedings of the 1985 OSMA Annual Meeting in Oklahoma City last month.

News from
the Oklahoma State
Department of Health

Whooping Cough

Officials at the Oklahoma State Department of Health are once again seeing an increase in whooping cough cases in several areas of the state.

To date, 30 cases have been confirmed by the state health department for 1985, with 23 of those reported since March 1. Last year, Oklahoma reported 243 cases of whooping cough. In 1983, there were 351 cases.

Most of the recently reported cases have occurred in Oklahoma and Sequoyah counties in children less than one year of age. Approximately 20% have been hospitalized.

Late spring and summer are typically the seasons when most cases of whooping cough are reported. The disease is characterized by the onset of upper respiratory symptoms and progresses to a stage involving coughing spasms. Each spasm consists of five to ten explosive coughs followed by a whoop and vomiting.

The state health department has an ongoing whooping cough surveillance project in the Oklahoma City metropolitan area. Funded by a grant from the Centers for Disease Control (CDC), the project is studying the possible role of adults and older children in the spread of whooping cough.

Cultures and blood specimens are obtained from patients suspected of having whooping cough. Once a case is confirmed, project staff visit the patient's home to obtain, with consent, cultures and blood specimens from family members. The blood specimens are sent to CDC to assist in developing a new serologic test for confirming the disease. □

DISEASE	March 1985	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	0	0	5	5
CAMPYLOBACTER INFECTIONS	20	43	32	—
ENCEPHALITIS, INFECTIOUS	5	9	1	5
GIARDIA INFECTIONS	15	46	41	—
GONORRHEA (Use ODH Form 228)	872	3181	2952	3890
HAEMOPHILUS INFLUENZAE INVASIVE DISEASE	14	50	55	—
HEPATITIS A	53	128	119	119
HEPATITIS B	15	37	38	58
HEPATITIS, NON-A NON-B	8	16	7	—
HEPATITIS UNSPECIFIED	9	22	27	58
MEASLES (RUBEOLA)	0	0	0	44
MENINGITIS, ASEPTIC	1	7	7	13
MENINGITIS, BACTERIAL (non-meningococcal, non H. Influenzae)	5	16	17	18
MENINGOCOCCAL INFECTIONS	3	9	14	12
PERTUSSIS	2	6	33	12
RABIES (Animal)	16	26	26	50
ROCKY MOUNTAIN SPOTTED FEVER	0	1	1	1
RUBELLA	0	0	0	0
SALMONELLA INFECTIONS	21	66	64	65
SHIGELLA INFECTIONS	14	43	28	63
SYPHILIS (Use ODH Form 228)	8	49	56	49
TETANUS	0	0	0	0
TUBERCULOSIS	30	58	57	77
TULAREMIA	0	1	1	1
TYPHOID FEVER	0	0	1	1

Diseases of Low Frequency	Total to Date This Year	
ACQUIRED IMMUNE DEFICIENCY SYNDROME	0	
BRUCELLOSIS	1	
LEGIONNAIRES DISEASE	1	
MALARIA	0	
REYE SYNDROME	1	
TOXIC SHOCK SYNDROME	3	
RABIES		
CADDO	Skunk	1
CARTER	Skunk	2
COTTON	Skunk	1
HARMON	Skunk	1
JEFFERSON	Skunk	1
LINCOLN	Skunk	1
LOVE	Skunk	3
McCURTAIN	Dog	1
NOWATA	Skunk	1
OTTAWA	Cow	1
TILLMAN	Cow	1
TILLMAN	Skunk	1
WASHITA	Skunk	1

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Hospitals consolidate labs, cut costs and save supplies

A study from upstate New York shows that savings of close to $1 million per year were realized by three hospitals that chose to consolidate their clinical laboratories. Projected expenses before consolidation were $9.3 million; actual expenses after consolidation were $8.5 million.

"These results illustrate the theoretically anticipated but rarely documented advantages of a shared-hospital services model of health care provision," say Garabed A. Fattal, MD, and colleagues in the *Journal of the American Medical Association (JAMA*, Apr 12).

Consolidated were clinical laboratory services of Bingham General Hospital in Binghamton, Wilson Hospital in Johnson City, and Ideal Hospital in Endicott. "Personnel savings amounted to the salaries of 7.7 full-time equivalents," the researchers say. "These included clerical, morgue, and technical staff, phlebotomists, a PhD clinical chemist, and a pathologist."

Substantial savings in supplies and materials also were realized. These were attributable to reduced quantities of reagents, standards and controls, higher discounts from suppliers with central group purchasing, and improved inventory control.

Consolidation of services was prompted by new reimbursement systems that replace cost-based reimbursement with a prospective pricing reimbursement method. The challenge then, the researchers say, was to develop a "reorganizational technique that could save costs without reducing availability of quality of services."

The basic reorganizational plan was "to replace low–workload volume laboratories that existed in each hospital with a single centralized laboratory for each category or type of testing in the one best-suited hospital facility." This called for decisions as to which tests had to remain in each hospital and for creation of a courier function, development of reporting technique, staffing changes, and capital item redistribution or acquisition.

"Certain enhancements in the practice of medicine of a qualitative nature have also flowed from consolidation of laboratories," the researchers report. "Consolidation has made it possible for clinical pathology subspecialists to concentrate in their specific areas of competence," they add.

Changes were facilitated by a "collaborative management" approach that involved personnel at all levels in the process of planning for the consolidation. "This technique has helped to deflect opposition to change and keep morale high," they say. □

Salmonella strain in raw milk may be drug resistant, says CDC

Salmonella typhimurium, an organism that causes food poisoning, may be resistant to antibiotics and therefore fatal, according to a report in the *Journal of the American Medical Association (JAMA*, Apr 12).

Carol O. Tacket, MD, of the Centers for Disease Control (CDC), Atlanta, and colleagues describe an outbreak of Salmonella enteritis from raw milk that occurred in Arizona in 1983. One 72-year-old woman died from complications of the infection after being treated unsuccessfully with chloramphenicol. The researchers note that nearly half the isolates from this study were resistant to chloramphenicol, but previous studies indicated only 0.6% of all *S typhimurium* in the United States were resistant to the drug. In this outbreak, the bacteria strain also proved resistant to ampicillin, kanamycin sulfate, streptomycin, sulfonamide, and tetracycline.

The researchers warn that raw milk has been the source of numerous outbreaks of enteric disease, particularly salmonellosis and campylobacteriosis. They point out that promoters of raw milk suggest that it is healthier and tastes better than pasteurized milk. "Such promotions may appeal to the aged or chronically ill, who are at risk for serious sequelae of Salmonella infections," they add. Animal-to-human transmission of resistant Salmonella has been documented previously, and in this outbreak there may have also been person-to-person or person-to-food-to-person spread of the disease. □

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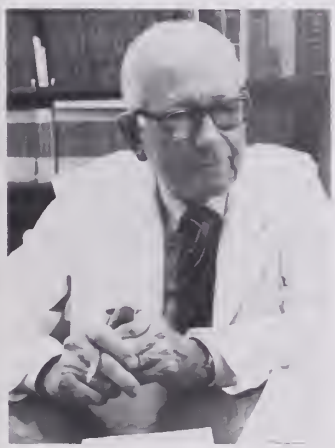
"PLICO Health is alive and well," says Dr C. Alton Brown

The president of OSMA's Physicians Liability Insurance Company, Dr C. Alton Brown, attests to the value and service of PLICO's comprehensive medical insurance program despite recent changes in the premium rates and annual deductibles.

Q. Dr Brown, what has precipitated the May 1st premium increases and higher deductibles imposed by PLICO Health?

A. The PLICO Board of Directors simply responded to the program's growing utilization rate. In 1984, for example, over $9,000,000 was paid out in health benefit claims versus about $10,000,000 in premium income. The additional cost of reinsurance to cover claims above $75,000 coupled with the operational overhead resulted in an operational deficit. We had to invoke the premium and deductible changes to get this line of PLICO's insurance business back into positive balance; otherwise, the health plan would be subsidized by the professional liability operation, and the PLICO Board decided at the outset that each coverage line would have to stand on its own.

Q. What happened to the "Wellness Bonus" which was heralded as a unique utilization control device?



A. It was one of those good ideas which didn't work. As a matter of fact, the bonuses we paid out from 1982 through 1984 became a major expense item of about $1,000,000 which was only negligibly offset by reduced utilization. By offering a $150 bonus to those who registered no claims against PLICO for the year, we had a two-fold objective: first, to encourage the self-payment of small-ticket health maintenance costs and, secondly, to avoid the administrative expense of logging a high volume of small claims against the insureds' annual deductibles. What happened was another story. Unfortunately, the bonus plan did not modify utilization behavior. It was an expensive experiment which was discontinued in 1983, but the bonus payments carryover was a major premium drain throughout most of 1984.

Q. Can you supply some detail about the utilization experience since the health program's inception?

A. Overall, using 1982 as the base year, our benefits paid has increased by 196% as of December 31, 1984. And this figure, I might add, is adjusted to allow for a growing number of insureds. The benefits paid per policyholder were $595.27 in 1982, $1,084.24 in 1983, and $1,167.54 in 1984. Last year, we processed over 38,000 claims. Our claims handling and payment experience is the best I have seen and is much faster and more efficient than any commercial carrier.

Q. Will you describe the PLICO Health premium and deductible changes which took effect on May 1st?

A. The $200 annual deductible was dropped . . . now we offer a choice of $300 or $500.

Those with the $200 plan had the option of moving up to the $300 deductible at a 6% premium increase or requesting a $500 deductible at a premium reduction of about 12%.

Insureds with the $300 deductible prior to May 1st were given the option of standing pat at a rather large premium increase of about 30% or converting to the $500 deductible at a 6% rate increase.

Specifically, the plan's monthly premium rates with the $300 deductible are $71 for an individual and $164 for a family policy. The $500 deductible option costs $57 for an individual and $136 for a family.

The Medicare Supplement Policy — up 6% — is $36 a month for the basic plan, which is the best of such plans in America. With the prescription drug rider, the monthly cost is $64.

Q. Since the new premium and deductible structure is a response to growing utilization and past deficits, do you anticipate that the current terms will resolve the problems of prior years and keep PLICO Health competitive today and in the future?

A. Yes. There is a reserve built into the current premium rates which should bring the total operational picture into balance within the next year. And, we are optimistic that the rate of utilization will begin to flatten; if so, premiums will be stabilized, and we expect that the maturation of our health plan will permit us to evaluate our premium needs no more often than annually in the future.

All OSMA members realize that PLICO and its Board of Directors are dedicated to providing quality insurance service on a cost-plus basis . . . the company has no profit motive for either line of insurance coverage it writes. Simply stated, we are trying to price our products just high enough to absorb our retained loss, to pay our reinsurance premiums so

we can offer unlimited coverage for devastating illnesses, and to cover our management costs. Given the same loss experience, no other carrier in America can operate more efficiently.

In both insurance lines offered by PLICO, the insureds are truly making their own rates. We are proud that PLICO has been able to offer the lowest-priced occurrence-type professional liability program in the nation for six consecutive years — less expensive than the twenty other "captive" companies owned by physicians, and less than any of the commercial carriers. Since no other medical association–owned captives offer health insurance, it is not as convenient to compare PLICO Health's performance within our peer group, but we are satisfied that no other insurance company can offer the same quality of coverage at a competitive price.

Our higher deductibles are quite consistent with today's health economics scenario and with industry-wide trends. We must remember that the nation's first health insurance plans in the early 1940s established the annual deductible at $100 on the basis that it was equivalent to the cost of one day's stay in the hospital. Can $300 or $500 be too high today using the same rationale?

The real purpose of health insurance is to hedge against the costs of serious illness. The deductibles which PLICO is currently using pale to insignificance when you consider that our health plan has paid for four or five major illnesses costing between $100,000 and $200,000 each . . . we have paid many benefits of $50,000 to $100,000. It is commonplace to pay health care bills of $7,000 to $20,000 for short hospital stays.

Our claims service is without parallel . . . uncomplicated claims are routinely paid within five to six working days after receipt. PLICO Health does not deliberately sit on the bills of doctors and hospitals in order to realize investment income on the cash flow. We are very much service oriented.

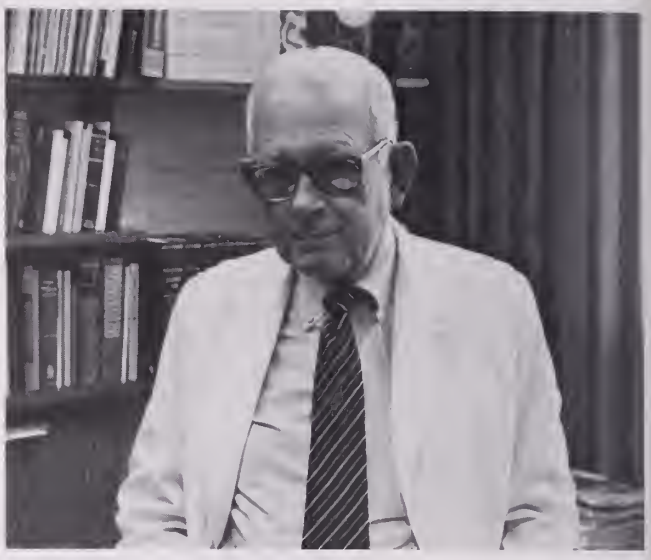
We pay physician's fees without question on the 90th percentile of statewide billed charges for like services and, as I have stated, we have no limit on PLICO Health's lifetime benefits to our insureds.

Despite our changes, we are superior to any other carrier in both service and value.

Q. Why did PLICO get into the health insurance business?

A. For the same reason the OSMA formed PLICO as a malpractice carrier, and that was to provide a stable market for an essential insurance coverage which was being underserved by the major companies.

The PLICO Board was somewhat reluctant to offer a medical plan at first, because we knew it would put us into another coverage line of great volatility and risk. But we had many, many requests from OSMA members to make a reliable health insurance market for them. This we have done, and over the course of time we expect to expand our competitive lead over other health insurance carriers.



"The real purpose of health insurance is to hedge against the costs of serious illness."

Q. How many participate in PLICO Health?

A. There are over 2,500 physicians currently participating and about 5,600 of their employees. When the preponderance of family policies involving dependent coverage is considered, PLICO Health insures over 20,000 members of the Oklahoma medical community.

Q. What else can be done to control the utilization problem which is apparently an inherent risk of all health insurance plans?

A. First, let me say that we have already dispelled one myth which permeates the commercial insurance industry. Aside from our previous utilization problems which are now being corrected, and which can be largely attributed to "growing pains," I think we are in a position to prove that a group comprised of medical doctors, their employees, and their respective dependents is no greater health insurance risk than any other group of educated people who will seek professional care rather quickly when illness or injury strikes. The attitude of many other insurers, however, is that physicians and their families can be expected to abuse a health insurance program. The PLICO Board is confident that our group's loss experience over the long haul will be quite affordable.

As to other measures of loss control now in force, PLICO Health has a self-audit program whereby its

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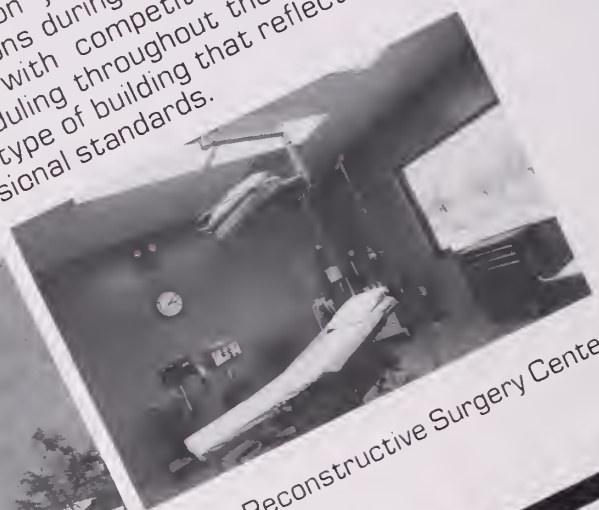
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Cholesterol debate rumbles on as report stirs disagreement

The relationship between diet, cholesterol, and coronary artery disease may be positive, but the mechanisms involved are still not clear, researchers assert in the *Journal of the American Medical Association (JAMA,* Apr 12). Their comments are directed at the National Institutes of Health's long-term lipid studies, and accompany the NIH consensus report on cholesterol.

Report Recommends Dietary Management. According to the consensus conference report, "Elevation of blood cholesterol levels is a major cause of coronary artery disease. It has been established beyond a reasonable doubt that lowering definitely elevated blood cholesterol levels will reduce the risk of heart attacks caused by coronary heart disease." The report also says that changes in the diet will reduce blood cholesterol levels, and it notes that a wealth of information from various studies supports these conclusions. Recommendations from the report include careful dietary management and possible addition of drug therapy for those persons with extremely high cholesterol levels and other risk factors such as family history of heart disease, smoking, obesity, or high blood pressure.

Editorials Question Report's Findings. One of the major studies used as evidence of the relationship between diet, cholesterol, and heart disease is the Lipid Research Clinics Coronary Primary Prevention Trial, reported from the NIH in *JAMA* last year. However, in an editorial from University of Southern California, Los Angeles, Shahbudin H. Rahimtoola, MD, points out that the study compared the effects of diet and drug therapy (cholestyramine) with the effects of diet alone. He concludes that this study does not prove conclusively that changes in diet can protect against coronary heart disease, and notes that the disease still occurs even when all known risk factors except male sex have been eliminated.

In a commentary, Richard A. Kronmal, PhD, of the University of Washington, Seattle, agrees. "The inability to show a significant relationship between degree of total cholesterol or low density lipoprotein cholesterol lowering and the primary end point in the placebo plus diet group provides little evidence for a beneficial effect of the diet." He says there was a small but real reduction in the rate of coronary heart disease in the group receiving diet therapy and cholestyramine, but even this was only shown in middle-aged men. Kronmal warns against extrapolating the results to other segments of the population.

Kronmal says there were no significant beneficial effects of reductions in the placebo (diet alone) group. He concludes, "The trial was well designed and superbly carried out. However, the reported conclusions seem to go beyond what is reasonably justified on the basis of the actual results."

Which Approach Is Best? William R. Harlan, MD, and Jeoffrey K. Stross, MD, of the University of Michigan, Ann Arbor, provide an overview of public education concerning diet, cholesterol, and heart disease. They point out that there have been major differences in the experience of treating hypertension and of treating high cholesterol levels. The drugs used so far to lower cholesterol levels have either had serious toxic effects or aggravating side effects, and with few exceptions, they have not reduced fatal heart attack rates. Harlan and Stross add that if diet is the best way to control cholesterol, physicians must educate their patients and provide adequate follow-up. "In general, physicians are uncomfortable with therapy to modify behavior, because successes are

PLICO Health alive and well (continued)

insureds who evaluate their own hospital bills and find erroneous charges will receive a percentage of any adjustment in the bill. Additionally, we routinely utilize a hospital audit service for very large hospital bills.

The extended application of professional courtesy within the framework of PLICO Health has considerable potential for reducing premium costs, although the PLICO Board of Directors has not promoted it very strongly. Of course, some benefit to our claims costs is already realized by many physicians who routinely donate their professional services to their colleagues and family members. It is interesting to think about what benefit would be derived if this were universal throughout the PLICO Health operation. For instance, if $2,000,000 was *not* billed in a given year for professional care, PLICO's pricing posture would return the bulk of this to the profession through reduced premiums. On the other hand, the same $2,000,000 paid out to physicians would net them only about $1,000,000 after taxes. This is oversimplified, of course, and quite theoretical, but it's an interesting thought.

Q. What does the future hold for PLICO Health?

A. I foresee it as a money-saving benefit for the membership of the OSMA. The goal of the PLICO Board of Directors is to provide our colleagues with the best health insurance plan available at the lowest possible cost. The broad support we have received from physicians on a statewide basis will make our job easy. □

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Cholesterol debate (continued)

marked by small increments of change and recidivism, and failures are common."

The University of Michigan researchers say that except for one study in Oslo, Norway, results of dietary therapy on cholesterol have not been conclusive. They do suggest improved educational efforts about diet, however, because even modest reductions in plasma cholesterol are associated with proportionately greater (approximately 2 to 1) reductions in coronary risk.

All the researchers recommend that physicians educate their patients about low cholesterol meals, but they say more research is needed to understand the link between diet, cholesterol, and heart disease. □

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Oral contraceptives may increase risk of chlamydial infection

Oral contraceptives may increase the risk of infection from *Chlamydia trachomatis*, the leading cause of nongonococcal pelvic inflammatory disease (PID), according to a report in the *Journal of the American Medical Association (JAMA*, Apr 19).

A. Eugene Washington, MD, MSc, of the Centers for Disease Control (CDC), Atlanta, and colleagues say that earlier studies suggested that oral contraceptives reduced the risk of PID, but that most of those studies were limited to hospitalized women and did not distinguish between various forms of the disease. "While oral contraceptives may provide some protection against gonococcal PID, no basis exists for assuming similar protection is provided against chlamydial PID," the researchers say. "In fact, epidemiologic and biologic evidence suggest that infection with *Chlamydia trachomatis* . . . is enhanced by oral contraceptives."

The researchers note that chlamydial infection has milder symptoms than gonococcal infection, so women are less likely to seek medical care or to be hospitalized. However, chlamydial infection causes more severe tubal inflammation, which is associated with higher incidence of infertility.

Twelve of fourteen epidemiological studies have demonstrated a twofold to threefold increase in chlamydial infections among oral contraceptive users, the researchers say. Recent reports indicate that both estrogen and progesterone (similar to the components of oral contraceptives) enhance chlamydial infections in animals. Oral contraceptive–induced changes in a woman's reproductive cycle may also make her more vulnerable to this type of infection.

Chlamydia is the most common sexually transmitted disease in the United States, the researchers say, with an estimated annual incidence of three million. They add that up to 70% of women with endocervical chlamydial infection and nearly 25% of men with urethral infection may be asymptomatic. Infertility is often the first sign that a chlamydial infection has been present.

"Clinicians should have an increased level of sus-

In Memoriam

1984

Grace C. Hassler, MD	*July 14*
Carryl W. Wiggins, MD	*July 17*
Solomon Papper, MD	*August 19*
Kirk T. Mosley, Jr, MD	*August 26*
Ingvald John Haugen, MD	*September 1*
Hugh H. Monroe, MD	*September 9*
Martin H. Bartlett, MD	*September 10*
Seth D. Revere, MD	*October 6*
Oliver H. Patterson, MD	*October 13*
Emmett H. Lindley, MD	*November 8*
Clark H. Hall, MD	*December 5*
Henry G. Bennett, Jr, MD	*December 18*
Adoniram V. Bowen, MD	*December 29*

1985

Owen L. Hill, MD	*January 15*
Earl M. Lusk, MD	*January 30*
Larry L. Lowery, MD	*February 12*
Harry Wilkins, MD	*February 14*
William H. Buchan, MD	*February 15*
Austin H. Bell, MD	*February 23*
Glen W. McDonald, MD	*February 25*
E. C. Lindley, MD	*March 1*
Charles W. Freeman, MD	*March 5*
Floyd L. Waters, MD	*March 5*
William M. Leebron, MD	*March 22*
Louis A. Martin, MD	*March 22*
Don D. Sullivan, MD	*March 27*

Deaths

Louis A. Martin, MD
1922 - 1985

Sapulpa general practitioner Louis A. Martin, MD, died March 22 in a Tulsa hospital. A native of McGee, Ark, he was graduated from the University of Arkansas School of Medicine in 1944. During World War II he served with the US Army Medical Corps in Hawaii and Japan, attaining the rank of Captain by the time he was discharged. A short time later he established his practice in Sapulpa.

Don D. Sullivan, MD
1937 - 1985

Don D. Sullivan, MD, a native of Shawnee, died March 27 in Tulsa. A specialist in obstetrics and gynecology, Dr Sullivan began his Tulsa practice in 1965 with a residency at Saint John Hospital. He earned his medical degree at the University of Oklahoma College of Medicine in 1964. Dr Sullivan was a Captain in the US Air Force from 1968 to 1970 and was a Fellow of the American College of Obstetrics and Gynecology.

Computed tomography effective in reducing cost of diagnosis

Use of computed tomography (CT) can substantially reduce the cost of diagnosing brain injuries, according to a report in the *Journal of the American Medical Association, (JAMA*, Apr 26).

Chlamydial infection (continued)

picion of Chlamydia when evaluating nonspecific complaints of lower genital tract infection in women using oral contraceptives," the researchers say, adding that if chlamydial PID is suspected, appropriate antimicrobials should be administered. Further, recommendations for oral contraceptive use after first episodes of PID should be reevaluated, especially if the type of infection is unknown.

The researchers conclude that more study is needed to examine the exact nature of the relationship between oral contraceptives and chlamydial infections, the differences in types of oral contraceptives, and the duration of use. They also suggest that future studies should compare the rates of chlamydial PID among women using barrier contraceptives and those taking oral contraceptives. Barrier methods are known to reduce cervical gonococcal infection. □

At the Mayo Clinic in Rochester, Minn, Michael Garraway, MD, and colleagues studied the use of CT in diagnosing subdural hematoma (accumulation of blood between the skull and the brain as a result of a head injury) in one Minnesota county from 1965 through 1980. Sixty cases of subdural hematoma were recorded from 1965 to 1972, before CT was available; these cases were compared with forty-six cases recorded after the introduction of CT in 1973.

"The advent of CT did not change the treatment course of the disease or prognosis of subdural hematoma," the researchers say. "However, the introduction of CT had a marked effect on the pattern of neurological investigation carried out. This resulted in a 15% reduction in the cost of diagnosing subdural hematoma in this community." The researchers add that the overall cost of health care rose by 87% during the same period nationwide.

The researchers say that subdural hematoma provides a useful disease model to evaluate the impact of CT because diagnosis is often difficult, especially among the elderly. They add that early diagnosis and prompt treatment greatly enhance recovery. The main effect of introducing CT was a reduction in the number of other diagnostic procedures, including an-

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Fiber in diet has benefits but cancer protection not included

Do specific foods cause or prevent cancer? The idea that they do has taken on the aura of a national policy, yet behind the scenes there is tremendous disagreement among the experts on this issue, according to the new report *Diet and Cancer,* published by the American Council on Science and Health (ACSH), an independent scientific organization.

"The current skirmish over dietary fiber is an excellent example of the very tentative 'state of the art' in this field," says Dr Michael W. Pariza, professor and chairman of the Department of Food Microbiology and Toxicology, Food Research Institute, University of Wisconsin, and author of the ACSH report.

"The National Cancer Institute (NCI) recently told the American public that eating more fiber will reduce our chances of getting colon or rectal cancer, yet this represents no more than the opinion of a few specialists," Dr Pariza says. "A lot of other experts disagree with this advice. A National Research Council (NRC) committee that was formed specifically to advise the public and government agencies on diet and cancer said that there was no conclusive evidence that fiber is cancer-protective. And still other scientists contend that some types of fiber work and others don't.

"If you want to eat a high-fiber cereal for breakfast, that's fine. But you should realize that it hasn't been *proven* to help prevent cancer," Dr Pariza continues.

Evidence from a variety of sources indicates that diet and cancer are linked, but the exact nature of the relationship is uncertain, according to the ACSH report. The major disagreement among scientists is over whether enough is known now to justify recommending dietary changes, the report adds.

"Someday, we may be able to prevent as many as 35% of all cases of cancer by modifying our diets, but that someday is not now," says ACSH Executive Director Dr Elizabeth M. Whelan. "The 35% figure, which was proposed by two eminent British epi demiologists, is very tentative. The scientists who came up with it warned that it 'is highly speculative and chiefly refers to dietary factors which are *not yet reliably identified.*'

"At ACSH, we believe that specific recommendations should be given to the public only when there is sufficient basis to expect that they will in fact accomplish what is promised," she said. "In the case of diet and cancer, I don't think we have that basis yet. Certainly, some individuals may want to change their diets on the basis of the current evidence, but a national policy of dietary change is not warranted." □

CT reduces costs (continued)

giograms, echoencephalograms, and electroencephalograms. The study showed that more than 60% of the patients before 1972 had angiography, whereas only 17% had the procedure after 1977.

The researchers add that although their study did not assess false-positive results of CT in diagnosing subdural hematoma, only two CT scans were normal in patients later found to have the condition (false negatives). They say other studies have shown the accuracy of CT in detecting intracranial hema toma approaches 100%. An earlier study at the Mayo Clinic suggested that diagnostic errors occur in fewer than 10% of patients and are equally divided between false positives and false negatives.

"The introduction of new medical technology is under almost continuous attack because of the implications of an increase in health care costs," the researchers say. They conclude that more studies on the use of CT will be helpful in determining whether this procedure reduces costs in diagnosing other neurological diseases as well. □

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Book Reviews

Cerebrospinal Fluids in Diseases of the Nervous System. Edited by Robert A. Fishman. Philadelphia: W. B. Saunders, Co., 1980. Pp 384, illustrated, $32.00.

In 1938, Merritt and Fremont-Smith published their classic monograph *The Cerebrospinal Fluid*. Dr Robert A. Fishman, professor of neurology at the University of California in San Francisco and a student of the late Dr Merritt, has provided us with a book that comprehensively reviews the same subject and also provides an update on the advances that have occurred in the forty-odd years since then.

The book begins with a historical introduction and emphasizes the advances since 1950 in the study of the physiology and chemistry of the cerebrospinal fluid (CSF). This is followed by chapters on the anatomic aspects and the physiology of CSF. Each chapter is illustrated with excellent diagrams.

In the discussion of the physiology of CSF, there is comprehensive coverage of the formation of CSF, the factors influencing the rate of formation, and the absorption and functions of CSF. There is also an interesting section dealing with the pharmacologic aspects of the blood-brain barrier and of the blood-brain barrier in pathological conditions.

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An extensive bibliography, which is alphabetized, is included at the end of the book. It carefully documents the information given in the text. The book is well indexed; it contains an occasional typographical error.

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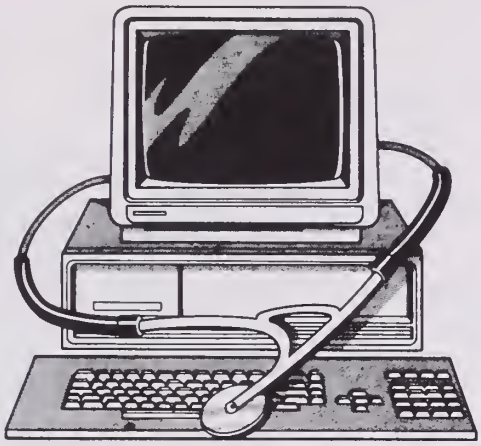
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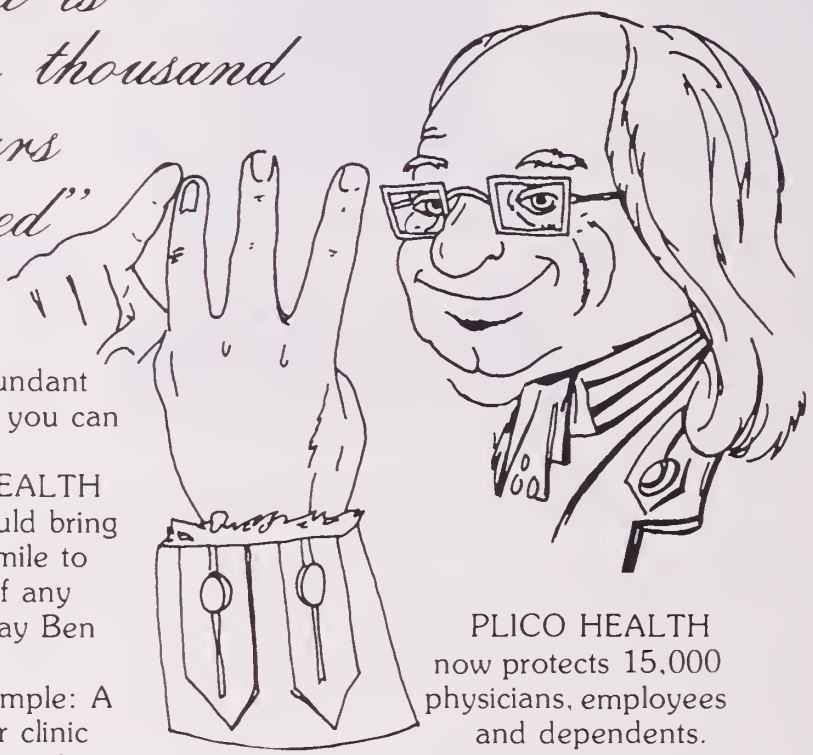
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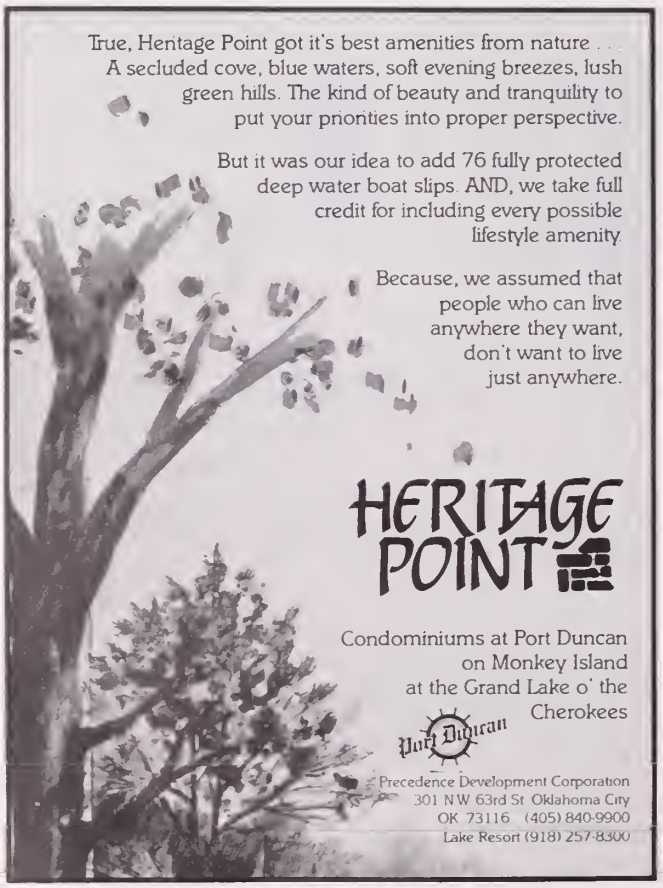
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Oklahoma Resorts

■ **William A. Grana, MD, director of the Oklahoma** Center for Athletes at Presbyterian Hospital in Oklahoma City, accompanied the American team to Italy's Winter World University Games in March. Grana was one of three physicians picked by the US Olympic Committee (USOC) to make the trip. His odyssey began two years ago when he was chosen to work as a volunteer physician at the Olympic Training Center in Colorado Springs. Of the fifty or sixty physicians working in Colorado Springs and at Lake Placid Center, fewer than half a dozen were offered a chance to go to the Pan-Am or World University Games. If the mutual interest continues, Grana could be invited by the USOC to accompany the US team to the next Winter Olympics.

■ **Multiple biopsies of pancreatic tumors in**crease the risk of rapid intra-abdominal spread of tumor, researchers from the Thomas Jefferson University Hospital in Philadelphia report in the April *Archives of Surgery*. Stephen M. Weiss, MD, and colleagues say they reviewed sixty-two patients with pancreatic cancer undergoing repeat laparotomy to identify risk factors associated with metastases. "Patients who underwent two or more operative biopsy procedures were at a markedly increased risk of developing intra-abdominal tumor seeding," they say. Among alternative diagnostic procedures they suggest is percutaneous fine-needle aspiration biopsy assisted by computed tomography.

■ **Foreign medical graduates (FMGs) will be the** subject of an attitudinal survey this summer and of an open hearing early next year. The activities are planned by the AMA's sixteen-member Ad Hoc Committee on Foreign Medical Graduates. The survey will ask about attitudes toward discrimination, availability of residency positions, licensure requirements, visa considerations, and competition among practices. The open hearing is scheduled for January 1986.

■ **"Computers in Clinical Practice: An Introduc**tion," an accredited, videotaped instructional course for physicians, is available from the AMA. The course is the first in the AMA's Video Clinic Series to provide instruction on computers and information technology. Physicians who view the videotape, use the study guide, and complete the instructional materials may earn two Category I continuing medical education credits. To rent or purchase the videocassette, call Department of Marketing Services, AMA Headquarters, toll-free number (800) 621-8335.

■ **Ibuprofen was more effective than placebo for** relief of symptoms associated with inflammation after high dose ultraviolet-B phototherapy for treatment of psoriasis in a double-blind study of 19 patients, according to a report in the April *Archives of Dermatology*. Robert S. Stern, MD, and Thomas B. Dodson of Beth Israel Hospital in Boston say the phototherapy is helpful for psoriasis, but often is accompanied by inflammation and sometimes by pain, development of vesicles, fever, and chills. They say ibuprofen helps relieve inflammation, "but the drug has limited usefulness in the treatment of sunburn reaction from these same doses (in phototherapy)."

■ **Preoperative use of mitomycin and fluoroura**cil and concomitant radiotherapy offer encouraging results in the control of head and neck cancer, according to a report from the Virginia Medical Center in Charlottesville. Michael J. Kaplan, MD, and colleagues say they treated 42 patients with stage IV squamous cell carcinoma (the most critical stage of the disease). For the entire group, 27 had a complete response to treatment, 14 had a partial response, and 1 had no response. "Follow-up is between 10 and 24 months," the researchers say in the April *Archives of Otolaryngology*. Kaplan now is at the University of California, San Francisco.

■ **OSMA President Elvin M. Amen, MD, reminds** patients and physicians that vacation time is here and burglars will be watching for vacant, unsecured homes. In his April statements Dr Amen included a preprinted stuffer listing reminders for homeowners about to leave town. Among them were the obvious but often overlooked basics: lock all doors and windows (don't forget the garage doors); arrange lamps and electric timers to create a "lived-in" look; leave shades and curtains in normal positions; stop all deliveries; arrange to have the lawn mowed regularly; inform the neighbors and the police.

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